

## U.S. Senate Joins House in Approval Of Funds for MX

WASHINGTON — The Senate voted Wednesday to approve the MX missile, the nuclear-tipped weapon President Ronald Reagan says is necessary to upgrade the U.S. atomic arsenal and win Soviet concessions in arms control talks.

The Senate vote, 59-39, which followed approval by the House of Representatives on Tuesday, was a major victory for Mr. Reagan, who had lobbied hard for the 10-warhead missile he calls "Peacekeeper."

Congressional approval means the Pentagon is now free to spend \$625 million to develop and test the missile.

Still to come in the next few weeks are House and Senate votes on whether to go ahead with production.

Before the vote, Senator Sam Nunn, a Georgia Democrat who once opposed the MX but was converted by Mr. Reagan's pledge that he was committed to arms control, said, "By killing the MX, you make it much less feasible that we can reach agreement with the Soviet Union to limit nuclear arms."

Senator Steve Symms, an Idaho Republican, urged approval by saying, "We have to draw the analogies to the 1930s of how weakness and appeasement led to war."

But Senator Edward M. Kennedy, a Massachusetts Democrat, called the missile system a "needless escalation of the arms race" and urged the Senate to "reject the MX before it is too late."

The House voted 239-186 Tuesday to free the money, a decision Mr. Reagan praised as a "wise, courageous step forward for America."

It was a remarkable turnaround in the House, which in December voted 245-176 against production money.

In a preliminary test of sentiment, the Senate voted 59-35 on Tuesday against a Democratic-sponsored attempt to delay a decision until Mr. Reagan agrees to a binding plan that would involve either moving or hiding the missile from a Soviet first strike.

Both sides' supporters and critics created the president's intensive lobbying with reversing the House

vote. Mr. Reagan was calling wavering congressmen until less than an hour before the vote, said Larry M. Speakes, the chief White House spokesman.

Mr. Reagan won some votes by pledging his commitment to arms control efforts and promising to review U.S. proposals to make them compatible with the recommendations of a White House commission on the MX.

Representative Norman D. Dicks, a Washington Democrat, said he had changed his mind and would support the missile because of Mr. Reagan's "good-faith initial effort" to support arms control.

After the December defeat, the White House commission appointed by Mr. Reagan proposed putting 100 MX weapons in existing Minuteman silos near Cheyenne, Wyoming. It also recommended development of a new single-warhead missile and a change in arms control aims to limit warheads rather than launchers.

In more than three hours of debate Tuesday, House critics charged that the latest basing plan would not protect the weapons from a Soviet strike and that it would move the world closer to nuclear war.

But supporters responded that the MX is needed to demonstrate American resolve and force Soviet concessions in arms control talks between the two superpowers.

The missiles "can be eloquent testimony to our will" to upgrade aging land-based weapons, said House Minority Leader Robert Michel, an Illinois Republican.

Representative Les AuCoin, an Oregon Republican, said, "This is the moment the genie leaves the bottle unless we exercise our good judgment and keep it in the bottle."

MX opponents argued that the missile was unnecessary because of other new nuclear weapons being developed and deployed by the United States, including the Trident submarine, cruise missiles and the B-1 and Stealth bombers.

Supporters said, however, that only the MX would have the necessary accuracy to threaten the Russians' land-based missile force.

## U.S. Says AIDS Inquiry Is Top Health Priority

By Robert Pear  
New York Times Service

WASHINGTON — The government's top health official has emphasized that the investigation of acquired immune deficiency syndrome, a deadly disease that strikes mainly male homosexuals and drug abusers, had become "the No. 1 priority" of the U.S. Public Health Service.

Dr. Edward N. Brandt Jr., an assistant secretary of health and human services, said Tuesday that the government was taking a number of steps in an effort to identify the cause and find a cure for the mysterious illness, which leads to a total breakdown of the body's immune system.

Dr. Brandt said the government expected to spend \$14.5 million for work on AIDS this year. He announced six new research grants for study of the disease and the approval of a new heat treatment for blood products, through which some scientists believe the infectious agent might be transmitted.

At a news conference, Dr. Brandt also said that he was urging state and local health officials to report all cases of the disease, known as AIDS. In addition, he said, the federal Centers for Disease Control have stepped up surveillance of the illness.

Since June 1981, the centers have received reports of 1,430 AIDS cases, of which 558, or 38.5 percent, died in 1982. Among the 78 cases diagnosed at least two years ago, the fatality rate is 92 percent.

In the past three weeks, medical journals have carried reports suggesting that the disease could be sexually transmitted from men to women and could be contracted by children through routine close contact with adults.

But Dr. Brandt said there was "no cause for fear among the general public that individuals may develop AIDS through casual contact with an AIDS patient."

Meanwhile, aides to Senator Lowell P. Weicker Jr., Republican of Connecticut, reported that he would seek \$12 million in additional funds for research and other activities related to the immune deficiency syndrome.

The money, to be proposed as part of supplemental appropriations bills for the current fiscal year, would increase federal spending on the disease by 83 percent.

Mr. Weicker is chairman of the Senate Appropriations Committee's labor, health and human services and education subcommittee, which handles money bills for the Department of Health and Human Services.

Dr. Brandt denied suggestions that the Public Health Service had neglected the disease because it occurred mainly among homosexuals.

But after he spoke, Virginia M. Apuzzo, executive director of the National Gay Task Force, a homosexual rights organization, said: "The entire agency is conducting business as usual insofar as this particular health crisis is concerned. It is inexcusable that a supplemental budget request has not been submitted to Congress."

While expressing "a sense of great urgency" about the disease, Dr. Brandt said, "We have seen no evidence that it is breaking out from the originally defined high-risk groups. I personally do not think there is any reason for panic among the general population."

Dr. Jeffrey P. Koplan, an assistant director of the Centers for Disease Control, said that 71 percent of the reported AIDS cases had occurred among homosexual or bisexual men.

Seventeen percent of those who reported the disease had taken drugs such as heroin through their veins. Haitian immigrants accounted for 5 percent of the cases, and people with hemophilia accounted for 1 percent. Six percent of the cases were not in any of these groups, but Dr. Koplan said they might have fit into one of the categories if doctors had done more complete investigations.

Dr. Brandt confirmed that half of the AIDS cases had occurred in New York City, but said he did not know why.



Before the House vote, from left, Representatives Les Aspin, Democrat of Wisconsin; Joseph P. Addabbo, Democrat of New York; Albert Gore, Democrat of Tennessee; and Jack Edwards, Republican of Alabama, discussed the proposed MX financing bill.

## Australia Snubs Foreign Investors As Fragile Economic Pact Evolves

By William Branigan  
Washington Post Service

CANBERRA, Australia — The two-month-old Labor government in Australia is quietly charting a new economic course with a more restrictive approach toward foreign investment.

At the same time, it is struggling to hold together a fragile agreement approved recently by business and labor leaders at a "national economic summit."

Although the government of Prime Minister Bob Hawke denies any official policy change on foreign investment, it has rejected each of six applications put to the Foreign Investment Review Board by foreign companies wishing to buy into Australian ventures.

The Labor government also reversed a decision by the previous conservative government to allow 10 foreign banks to begin commercial operations in Australia.

In its latest rejection of a foreign investment bid, the government turned down an application by a South Korean company to buy 25 percent of a pipeline project in Queensland. The state government, which badly wanted the investment, sharply attacked the decision.

The national government's wage restraint policy has also been under attack, as maverick labor unions press for pay increases that threaten to erode the consensus that emerged last month at the economic conference of government, labor and business leaders.

In a bid to hold together the accord, Mr. Hawke, himself a former trade union leader, pleaded last week with union members to restrain their wage demands and allow the government to pursue its objectives of stimulating the economy and creating jobs.

Critics responded that the government itself had undermined the conference's consensus on wage restraint by agreeing to an effective pay increase for about 190,000 construction workers.

The strain on the agreement reinforced the impression among some segments of the Australian press that the Hawke government, after an impressive start, was beginning to fall into the same economic traps that stymied the government of Mr. Hawke's predecessor, Malcolm Fraser.

Senator Donald L. Chipp, the leader of the Australian Democratic Party, hailed the four-day economic meeting of 100 business, government and labor leaders as "an outstanding success in political, social and economic terms."

Mr. Chipp, whose small but influential party campaigned for the March 5 national election with the slogan, "Keep the bastards honest," said the government might not be able to enforce the meeting's agreement perfectly.

But he said that "if the thrust can be maintained" and "outrageous wage demands" curtailed, it would go a long way toward solving Australia's economic problems.

The leader of the opposition Liberal Party, Andrew Peacock, dismissed the conference as a "substitute for action." He said the government was in a "state of confusion on wages policy" and was



Bob Hawke

## Syrian Warplanes Fire Missiles Over Lebanon At Patrolling Israeli Jets

By Edward Walsh  
Washington Post Service

JERUSALEM — In the most serious recent incident in the war of nerves between Syria and Israel, Syrian jets fired air-to-air missiles Wednesday at Israeli aircraft that were on a reconnaissance mission over eastern Lebanon, the Israeli military command announced.

The Syrian missiles missed their targets and the Israeli planes, which did not fire back, returned safely to their base after the morning incident, according to the announcement.

The statement added that the Israeli Air Force "is continuing its flights as usual."

No other details of the confrontation were made public, but the military command also disclosed that on Monday two SA-7 missiles were fired at an Israeli helicopter in Lebanon but did no damage.

SA-7s are small, surface-to-air missiles carried by individual soldiers. Beirut radio said the Syrians shot down an unmanned Israeli drone aircraft Wednesday over Lebanon. The Israelis denied the report and said there were no other incidents reported along the line that separates the Israeli and Syrian armies in eastern Lebanon.

Wednesday's incident was the first confrontation between Israeli and Syrian aircraft since Aug. 31, when Israeli jets shot down a Syrian MiG-25 that was on a reconnaissance mission near Beirut.

The last previous action of any kind involving aircraft over Lebanon occurred Oct. 4 when Israeli jets destroyed a Syrian SA-9 surface-to-air missile battery that the Syrians had moved into Lebanon.

By Wednesday night, there were no reported countermeasures by Israel against the Syrians because of Wednesday's incident.

The Israeli military command, however, issued a statement Wednesday night accusing Syria of a "clear violation of the cease-fire agreement" between Israel and Syria, and said the firing on the reconnaissance jets was "the most serious in the chain of increasingly serious Syrian violations" of the cease-fire.

The statement said the Syrian "provocation" was an attempt to nullify Israel's new troop withdrawal agreement with Lebanon and added that Israel "is closely following the Syrian trends and moves with the hope and desire of preventing violent clashes."

Since Israel signed the troop withdrawal agreement with Lebanon on May 17, Israeli officials have stressed that they have no desire for a military conflict with Syria. They have appeared reluctant to risk the diplomatic gains they achieved in signing the pullout accord by intensifying the conflict with the Syrians.

The Israelis have instead displayed the prospect of renewed fighting and characterized the reinforcement of Syrian forces in Lebanon's Bekaa Valley as largely a political move designed to subvert the Israeli-Lebanese agreement.

In this connection, it was noteworthy that the missile firing at the Israeli helicopter on Monday was not announced at the time and might have gone unreported were it not for Wednesday's more serious incident involving the jet fighters.

The Israeli Air Force has controlled the skies over Lebanon since the beginning of last summer's war and is believed to have flown reconnaissance missions over the country without challenge for months.

Since the Israeli invasion, however, the Soviet Union has resupplied the Syrian Air Force with sophisticated aircraft and installed new surface-to-air missile batteries in Syria, including long-range SA-5 missiles that are capable of hitting targets over Lebanon or Israel.

Appearing this week before a closed session of a parliamentary committee, Defense Minister Moshe Arens of Israel reportedly said there were some signs that Syria may be preparing for war but no evidence that the Syrians were about to start hostilities.

According to the latest figures from the Israeli Army, the Syrian force in Lebanon and along the Lebanese-Syrian border includes about 50,000 soldiers, 1,200 tanks, 500 other armored vehicles and 400 heavy guns.

Israel has reduced its military presence in Lebanon and is now said to have fewer than 20,000 troops in the country.

An official close to Mr. Arens said earlier Wednesday that Israel has deliberately not reinforced its presence in Lebanon for fear of setting off a chain reaction that could lead to renewed fighting.



BLAMES QADHAFI — Yasser Arafat, chairman of the Palestine Liberation Organization, has blamed Moamer Qadhafi, the Libyan leader, for stirring rebellion among PLO guerrillas. Page 2.

## Blast in South Africa Justified, Blacks Say

By Joseph Lelyveld  
New York Times Service

JOHANNESBURG — In virtually all their pronouncements on Friday's car bomb explosion in Pretoria, South African officials have emphasized the black casualties, apparently in the belief that sympathy among blacks for the outlawed African National Congress would give way to revulsion over the brutality of an urban bombing.

However, soundings taken Tuesday among a rough cross-section of politically involved and ordinary urban blacks indicate that the reaction has been the opposite of what whites tend to assume.

Defense Minister Magnus Malan pledged Monday to avenge the dead, be they "white, black or colored."

The Johannesburg Star commented in an editorial that "South Africans mourn the Pretoria dead" and "perhaps even exult in the swift revenge at Maputo," the capital of Mozambique, which had just been the target of a reprisal attack.

The editorial drew no distinction between the reactions of whites and blacks. On a facing page, a headline declared, "Black Leaders Damsel Attack." That article quoted the reactions to the Pretoria blast only of officials in the black "homelands" that South Africa has created within its borders.

But none of this has taken into account the reaction in the broad range of black opinion that has been described as nationalist in that it rejects any political settlement not based on full political rights for the majority.

Questioned about reactions to the bombing, a black man with wide contacts in political circles said, "People are jubilant."

"They long ago gave up any hope for peaceful change. What they are saying is that the African National Congress is finally hitting real targets. That is why you are having crowds of blacks drawn to the street where the bomb went off. They want to see the place where a white man died."

Asked how they felt about the eight blacks who were among the 18 people killed by the blast, the man replied that some blacks were so mistrustful of the official information media that they have taken comfort from a hypothesis that some of these dead might be the creation of government propaganda.

The reaction of others, he said, was that, "We should just keep quiet about them and bury our dead."

Older blacks who are often intensely religious and might be expected to recoil from bloodshed are also intensely loyal to the African National Congress, which was a legal movement in their youth, another man said.

"They know how long it waited before it tried these kind of tactics," he said.

The car bomb explosion has appeared to erase one of the most frequently voiced criticisms of the tactics of the group in black nationalist circles. This was that white strategists in its leadership were sending young blacks on "suicide missions" in which they were instructed to hit symbolic targets such as empty government buildings.

This time there is a widespread assumption, fostered in part by the pro-government African press, that the car bomb might have been set off by white members of the movement.

The immediate effect of the Pretoria bombing has apparently been to bolster support for the African National Congress, the sources all agreed.

They appeared to subscribe to the general view that whites have relied on violence to maintain their power and that blacks had no choice but to respond in kind.

The explosion was justified on two counts: as a reprisal for the attack in December by South African forces on the group's residences in Maseru, the capital of Lesotho, in which 42 people were killed, and as a strike against a military target.

The office buildings outside which the bomb went off housed South Africa's Air Force command, but there has been no official tally of military casualties.

A black social worker said, "It is unfortunate that innocent civilians were involved, but the motive of the attack was very clear. The black fatalities are just part of the larger sacrifices that we as a nation have to face and accept."

The mother of two young men who have left the country to join "the struggle" commented: "The boys have finally struck where it hurts most."

"This will make the government realize that our sons are away from home and dearly want to return. There will never be an end to this as long as the gates to their country remain closed to them."

A tutor in the black township of Soweto called the bombing "good but alarming." He said it signaled "a bleak future for the country as a whole."

A 19-year-old school dropout said: "They hit them! It was out of this world! The cops, the whites didn't expect a black man to strike so hard."

## Kuwait's Parliament Shows Independence Assembly's Latest Law Would Dry Up Diplomatic Liquor Chests

By David B. Ottaway  
Washington Post Service

KUWAIT — Kuwait's first National Assembly, once again has served notice on a somewhat embittered government that it has no intention of becoming a rubber stamp.

This time it has passed a law prohibiting embassies from importing or making locally any kind of alcoholic beverage, a law even more severe than any in rigorously dry Saudi Arabia.

The 240-vote in mid-February, which took effect this month, has annoyed the Western diplomatic community and brought charges of hypocrisy from many Kuwaitis.

Revealed in 1981 after a five-year suspension for misbehavior, Kuwait's 66-member National Assembly is not the tame body that the ruling Sabah family presumably expected after radical Arab nationalists and pro-Iranian Shiite members were mostly gerrymandered out of their seats in the last elections.

In the two years of renewed parliamentary life, the assembly has veered left and right on its path to democracy, a path that has put the Sabah family, progressive by Gulf standards, in a quandary.

Among its most controversial decisions opposed by the government have been votes barring Kuwaiti nationality to non-Muslims, rejecting the women's right to vote, blocking an attempt to curb press freedom and refusing funds for the Syrian-manned Arab peace-keeping force in Lebanon.

In addition, the assembly has just signaled that the government's proposed constitutional amendments, which would expand the emir's powers, have no chance of getting the necessary two-thirds majority.

It is unclear to an outsider how such a legislative institution took root on the peninsula, where autocratic tribal and family rule prevails. The explanation seems to lie in the history and personality of this oil-rich city-state of 1.4 million people, which has the highest per-capita income in the world.

Kuwaitis say their hybrid democracy stems from the highly mobile and cosmopolitan nature of their society, a tradition of consultation and wealth-sharing between the leading merchant families and the Sabahs, who have ruled since 1756.

Compared with Western democracy, Kuwait's version still seems limited. There are no political parties, voting is limited to 3 percent of the population and the prime minister is always the crown prince, chosen by the Sabah family and virtually immune to a vote of no-confidence.

But in the context of the Arab states of the Gulf, where there is a tradition of no more democracy than consultative councils of appointed elders, Kuwait's National Assembly seems separated by light years.

"There are not many assemblies in the Third World where deputies are free to stand up and criticize the government" as they do here, remarked one diplomat from the West.

The present 30 elected deputies were expected to make up a far more accommodating body than the previous assembly, which publicly insulted the ruling family and questioned its right to rule. The emir suspended it in 1976 on the ground that the shock waves from the Lebanese civil war were threatening Kuwait's stability.

The 1981 elections saw the purge of all leftist Arab nationalists and all but three pro-Iranian Shiite Muslims from the assembly. But their place was taken by a half dozen

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## France Ready to Introduce Its Version of New Jet Fighter

By Axel Krause

PARIS — France will unveil its version of a new tactical fighter for the 1990s during the opening of the Paris Air Show on Thursday, and French aerospace and military officials say they hope the plane will be built in cooperation with West Germany.

A full-scale mock-up of the plane, funded by the French Defense Ministry and designed by Dassault-Breguet, is the latest of several tactical fighter designs being examined by military planners in France, Britain, West Germany and Italy.

Their objective is to replace their existing fleets, starting around 1991, aerospace officials said Wednesday.

Several leading U.S. aerospace companies, including Northrop and General Electric, are participating in the studies and discussions through their European partners. They are hoping to supply advanced technology and engines for the planes.

Exploratory talks between European and U.S. industry and government officials were expected to be held during the air show, which runs through June 5, industry sources said.

A senior U.S. aerospace executive said: "Although the Europeans appear determined to build their next new fighter together, there will be very significant possibilities for inputs of American technology and hardware, assuming, of course, the Europeans get their act together. But that has not yet happened."

The French fighter project, known as the ACX, for Avion de

Combat Experimental, is expected to produce a demonstrator model that could be test flown by the end of 1986, Defense Ministry sources said.

It will be a twin-engine aircraft with a modified delta wing, incorporating fiber optics and highly advanced control and electronics systems, the sources said, adding that it would be designed for France's air force, navy and for export.

"This is not yet a prototype, but a demonstrator model to fly with all the latest technologies," a Defense Ministry source said, emphasizing that the final version of the aircraft should involve European and notably West German partnership, primarily because of the high costs involved.

A French Defense Ministry official declined to reveal the projected budget for the ACX but said "we are talking in the billions of dollars."

Dassault-Breguet, which was nationalized by the Socialist government last year, is being encouraged to discuss with West German aerospace companies the possibility of setting up what a Defense Ministry source described as an "equal partnership with no junior or senior partners."

The comment was a thinly disguised reference to West German allegations that Dassault has been unwilling to cooperate with German industry unless it was assured of total design leadership on the new plane.

During the past few months, the French company has held exploratory talks with Dornier, its partner in building the Alpha trainer jet, and with Messerschmitt-Bölkow-

Blohm, West Germany's largest aerospace company.

"We are ready to cooperate" with the German aerospace industry, said a Dassault official, "but we are not on our knees."

He added that details of the ACX project would be disclosed Friday at a news conference by company officials at the air show. Industry sources said there are several possible alternative versions of the tactical fighter from which to choose.

British Aerospace will display a model at the air show of its Agile Combat Aircraft, which was unveiled in September.

The British government is funding development of the plane as a possible replacement for its British-French Jaguars. British industry sources say, however, that the government is encouraging exploratory talks with West German and Italian industries.

"For reasons of conflicting goals, it does not look as if we can work with the French," a British official said.

Dornier and Northrop will display a model of a plane known as the P-700 that the companies have been studying. That effort, however, is far less advanced than either the Avion de Combat Experimental or Agile Combat Aircraft projects.

Noting that the West German Air Force has not made its choice about how to replace its present fleet of F-4 Phantoms, a Dornier official said that "Northrop is a possibility for a cooperative venture, but everyone is talking with everyone."



BIRTHDAY CANDLES — Fireworks at New York's Brooklyn Bridge on Tuesday marked the 100th anniversary of the span linking Brooklyn and Manhattan.

## Divided OAU Marks Anniversary

By Andrew Hill

NAIROBI — The Organization of African Unity observed its 20th anniversary Wednesday with a denunciation of South Africa but with persistent doubts about the OAU's ability to survive.

While African nations are in accord on their abhorrence of South Africa, there are few signs that deep differences, such as over the Western Sahara and Chad, can be reconciled.

The president of Kenya, Daniel Arap Moi, the OAU chairman, said in an anniversary message that South Africa's grip on South-West Africa, or Namibia, was the last vestige of the colonial rule that the OAU was set up to end 20 years ago.

The message also said: "The black majority in South Africa must obtain their political, social and economic rights like any other people in a democratic society. We strongly condemn the racist regime of South Africa and its collaborators for its desperate attempts to link the independence of Namibia with the withdrawal of Cuban troops from Angola."

President Moi's message was issued two weeks before a scheduled OAU conference of leaders in Addis Ababa that will probably determine whether the OAU can survive in its present form, diplomats said.

In the past year two attempts to hold the 19th OAU summit meeting have collapsed because of political divisions over the Western Sahara and Chad.

The foreign minister of Nigeria, Ishaya Adun, and others have voiced fears that a third collapse of the meeting could mean the end of the OAU, Africa's biggest forum for political cooperation and the world's largest regional grouping. Western diplomats say the dis-

pute over the Western Sahara, which is ruled by Morocco, could be the main stumbling block for the Addis Ababa meeting June 6-11.

The OAU has been unable to hold any meeting since Polisario guerrillas fighting for the independence of the Western Sahara became the organization's 51st member in a disputed decision in February 1982.

The admission of the Polisario's self-styled Saharan Arab Democratic Republic led to a boycott of the first attempt to hold the conference in Libya in August.

To appease its opponents the Polisario stayed away from the second attempt to hold the meeting in November, but that fell through because of Libya's opposition to

the seating of the Chad government of Hissène Habré.

President Habibé had routed Libya's leftist ally, Goukouni Oueddi, in a long civil war. Mr. Goukouni's forces, backed and armed by Libya, are currently pushing south into Chad, according to reports from Nijamena.

The Polisario has said that it will attend the Addis Ababa meeting despite strong pressure from OAU states, including its backers, to stay away, raising the prospect of another walkout.

Libya has called for a postponement of the meeting in a move seen by Western diplomats as aimed at buying time for Mr. Goukouni's army to advance further toward Nijamena, and at helping Mr. Goukouni's claim to be the legitimate ruler of Chad.

## Arafat Blames Qadhafi For Fatah Rebellion

By James M. Markham

MEJ EL ANJAR, Lebanon — Yasser Arafat sat smiling under a photograph of himself surrounded by equally jovial commanders of the Yarmouk brigade.

In a bantering humor, the chairman of the Palestine Liberation Organization dismissed a mutiny among a handful of his commanders down the road in a place called Ait el Fukha, as a bit of mischief by Colonel Moamer Qadhafi of Libya and Palestinian radicals influenced by Abu Nidal, who split with the PLO in 1972.

"All of them are about 150," Mr. Arafat said Tuesday in his enthusiastic but imprecise English. "Now, the head of this problem is Qadhafi. You can go anywhere in the Bekaa, in Tripoli. All the trouble, they are exaggerating."

Since May 7, when Colonel Abu Musa, a commander of the PLO's el-Fatah guerrilla group, tried to seize control of the elite Yarmouk brigade, Mr. Arafat has been traveling just about everywhere in the Bekaa region, rallying the 12,000 men he says he has in eastern Lebanon and checking the contagion of rebellion. He has also paid his first visit in months to Tripoli, on Lebanon's northern coast.

For a group of journalists brought into the Syrian-controlled Bekaa on Tuesday in the company of Mr. Arafat, Palestinian hospital-ity did not include a visit to Ait el Fukha, where the band of mutineers is said to have established itself behind barricades. The band is less than a mile from Israeli lines, but is separated from the lines by some Syrian troops.

"All the good people have left them, and only the bad ones have stayed," declared a young, green-uniformed Fatah man, who said he had deserted Colonel Abu Musa on Tuesday. He and his comrades said that the colonel had some heavy guns but that the people with him were mostly Palestinian teen-agers brought in from Damascus.

The Fatah central committee on Saturday placed the leaders of the Bekaa rebellion under Mr. Arafat's direct command.

It is evident that Colonel Abu Musa could not hold out without a certain amount of Syrian indulgence, or even cooperation. Mr. Arafat has chosen to tackle the mutiny as a political matter — which it appears fundamentally to be — by mobilizing opinion against the colonel and painting him as a Libyan lackey.

Here in Mej el Anjar, which lies

just off the Damascus-Beirut highway, Mr. Arafat seemed eager not to dwell on the Abu Musa problem, but dealt with other questions handily, condemning the continued killings of Palestinians inside Israeli-occupied Lebanon. He asserted that 57 Palestinians had been murdered in the past two weeks.

Asked whether he thought another Middle East war was likely, Mr. Arafat nodded briskly. "No doubt," he said. "There are military massings from the Israelis. More than five divisions now are massing in Lebanon, and they are preparing for something."

He vigorously condemned the security agreement signed last week by Israel and Lebanon, but said that a withdrawal by Syrian and PLO forces from the country was a matter for President Hafez al-Assad of Syria to decide, since he had about 35,000 troops in the country.

A note of conciliation ran through much of what Mr. Arafat had to say. He insisted that the PLO still kept "the door open" to negotiations with King Hussein of Jordan, who, exasperated by opposition from Palestinian radicals, last month broke off talks centered on President Ronald Reagan's peace plan. And the Palestinian leader declined to say anything about measures taken recently by Hussein to inhibit West Bank Palestinians from emigrating to Jordan.

But the politics of the Middle East did not seem to be foremost on Mr. Arafat's mind Tuesday. The mutiny within Fatah hints at difficulties not just with Libya, but also with Syria, which controls the Palestinians' tenuous supply lines to their last military front with Israel.

By harassing the Israelis behind their lines — the PLO deputy commander, Abu Jihad, said Tuesday that his guerrillas had carried out 350 raids in the past three months — the PLO hopes to make them weary of Lebanon and perhaps oblige them to pull back to the Aqaba River in the south as some Israeli commanders have suggested.

But for such activities, the Palestinians need operational autonomy. And after having been driven from Beirut by the Israelis last summer, Mr. Arafat and his men find themselves uncomfortably dependent on Damascus.

■ **Blockade Imposed on Rebels**  
Mr. Arafat has imposed a blockade on the rebel officers to try to bring a peaceful end to their revolt, a senior aide to Mr. Arafat said Wednesday, according to a Reuters report from Damascus.

Abu Jihad said the Fatah leadership had cut off food, fuel and pay to the rebels.

Meanwhile, Fatah's central committee continued meeting in Damascus to discuss what action to take against the mutineers if the blockade fails, Palestinian sources said.

### Jordanian Celebration

AMMAN, Jordan — King Hussein of Jordan inaugurated the country's \$225-million Queen Alia International Airport on Wednesday as Jordan celebrated the 37th anniversary of its independence from Britain.

## WORLD BRIEFS

### U.K. States Position on A-Arms

LONDON (Reuters) — Foreign Secretary Francis Pym said Wednesday that Britain would consider including its independent nuclear deterrent in disarmament talks if the Soviet Union agreed to make drastic reductions in strategic weapons.

"But we are obviously a long way away from that," Mr. Pym said at the daily news conference being held by the Conservative Party during the campaign for the general election June 9.

Prime Minister Margaret Thatcher said this month that the British deterrent could not be a part of U.S.-Soviet talks to reduce medium-range nuclear missiles in Europe. At the news conference, Mrs. Thatcher reiterated her commitment to update Britain's deterrent by replacing its submarine-launched Polaris missiles with the new U.S. Trident weapon system.

### Police Blamed in Deaths on Java

JAKARTA (UPI) — An Indonesian human rights organization accused the police Wednesday of fatally shooting 300 to 400 people during a crackdown on crime on the island of Java.

The private Legal Aid Institute, which monitors human rights in Indonesia, said the killings were committed by security authorities rather than by unknown gunmen as officials have claimed.

Presenting a report of the institute's findings, Abdul Rachman Saleh, a lawyer for the group, said: "We think our figure is by no means an exaggeration. The official figure is 121." He said the institute had gathered evidence that some of the victims were not criminals and cited the case of a civilian apparently killed by mistake. His family received a donation from the police.

### Bern Won't Halt N-Waste Dumping

BERN (Reuters) — Switzerland will continue its past practice of dumping radioactive waste in the Atlantic this year, despite opposition from ecologists and other nations, the government announced Wednesday. The decision went against the spirit of a vote taken in February at a 52-nation convention in London on waste dumping in oceans.

But the government here ordered experts to draw up plans for the temporary storage of radioactive refuse in Switzerland until a permanent repository is ready in about 12 years. In the past, Switzerland has dumped its wastes in June or July off the northwest coast of Spain, which has led moves to halt the practice. The European Parliament last year also called for a stop to the dumping.

At the London convention in February, Switzerland voted against a proposal for all participating nations to suspend the dumping of radioactive wastes pending a scientific review. The resolution narrowly failed to obtain the simple majority needed to make it binding.

### Moscow Expels 3 Iranian Envoys

NICOSIA (AP) — The Soviet Union has expelled three members of the Iranian Embassy staff in Moscow, Iran's Islamic Republic News Agency reported Wednesday.

The agency said the expulsions were in retaliation for the expulsion order on May 6 of 18 Soviet diplomats from Tehran. The names or positions of the three Iranians were not given. There was no immediate comment from the Soviet Union.

The Iranian agency said the 18 Soviet diplomats had connections with Tudeh, the Iranian Communist party, which was dissolved the day the Soviet diplomats were ordered to leave. More than 1,000 Tudeh members, including the secretary general, Nureddin Kiamuri, have been arrested. Many have been accused of spying for Moscow.

### Peru Orders State of Emergency

LIMA (Combined Dispatches) — Hundreds of policemen, firing tear gas and blocking traffic, seized the headquarters of the Peruvian Civil Guard in central Lima on Wednesday to dramatize a 24-hour strike for higher wages. The government ordered a three-day state of emergency and the armed forces are patrolling the streets.

The emergency order, affecting Lima and the adjoining port city of Callao, came in the midst of an increase in anti-government terrorism. A bank strike Wednesday paralyzed financial dealing in the capital. The order, broadcast by national radio, said civil rights would be suspended during the emergency.

"This is in no way a political strike," one Civil Guard said. "We have been mistreated for too long and want the people to know we are only asking for what is owed us."

### 250 Missing in Nile Steamer Fire

CAIRO (UPI) — Fire severely damaged a Nile steamer tugging two barges with more than 600 people on board early Wednesday morning, and police said at least 250 people were missing and feared dead.

The Egyptian vessel was on a routine trip between Aswan in southern Egypt and Wadi Halfa in northern Sudan when fire broke out after a gas bottle exploded. An official statement said 325 people were saved, and sources at a Cairo rescue center said 48 bodies were recovered.

A police spokesman said the vessel and the barges carried 599 passengers, most of them Sudanese, and 28 Egyptian crewmen.

### Tass Spurns Reagan Hot-Line Idea

MOSCOW (Reuters) — Tass has dismissed proposals by President Ronald Reagan to improve the "hot line" between Washington and Moscow as an attempt to divert attention from the issue of MX intercontinental missiles. The Soviet press agency said Wednesday that the suggested modifications would do nothing to allay suspicion or reduce the danger of war.

On Tuesday, Mr. Reagan called on Soviet leaders to agree to upgrade emergency communications between them to reduce the risk of an accidental outbreak of nuclear war.

"In proposing to install new telephone apparatus on the Moscow-Washington line and describing these measures as strengthening stability, the president hopes to reduce protests by the U.S. public against deployment of MX missiles," Tass said. MX missiles would be based in the Western United States and aimed at targets in the Soviet Union.

## French Aide Is Firm On University Rules

PARIS

PARIS — The education minister, Alain Savary, said Monday he would press changes in university regulations into law despite protests by students.

Small groups of protesters clashed with the police in Paris until the early hours Wednesday after a demonstration near the National Assembly by 12,000 to 15,000 students.

Confronted by at least 1,500 amendments proposed by the opposition in parliament, Mr. Savary on Tuesday invoked emergency debate procedures that will cut short the time for discussions.

A ministry representative said this procedure would allow the proposals to become law by November and be carried out the following autumn.

Mr. Savary told parliament the changes would make the universi-

ties better able to respond to France's economic needs and more open to working-class students.

Many students and teachers and the center-right opposition parties say the changes will tie the universities too closely to the needs of industry and science at the expense of academic freedom.

Students said no more big street demonstrations were planned for the immediate future, but they said they would continue to lobby politicians, including Socialists and Communists.

The authorities said 131 police officers were injured in skirmishing Tuesday. Commentators attributed most of the violence to several hundred rightist extremists using a cover to attack the police.

The police said 11 youths were detained, of whom six were students, the others having no connection with education.

## EC to Press U.S. on Aid Programs

Reuters

BRUSSELS — The European Community, concerned about U.S. policies toward developing countries, has plans to press President Ronald Reagan at Williamsburg, Virginia, to soften his stance on Third World assistance.

Foreign Minister Hans-Dietrich Genscher of West Germany said Wednesday that Western industrialized nations should give a very positive signal to developing countries at the Williamsburg summit this weekend.

The EC foreign ministers meeting here also endorsed guidelines already agreed upon by their finance ministers, Mr. Genscher said. The finance ministers said in a statement distributed Wednesday that the summit should agree on viable policies to boost investment and help world trade recovery while seeking to reduce unemployment.

They also called for firm action to reduce budget deficits, to stabilize foreign exchange markets, to lower interest rates, to reinforce

multilateral financial institutions in the face of world debt problems and to prevent the fall in oil prices from encouraging consumers to abandon energy conservation and development policies.

Diplomats said the European Community wants a specific reference in the final summit declaration to the importance of next month's United Nations conference on trade and development in Belgrade.

The European Community decided on the need to stress commitment to the Third World because of concern about what they called the Reagan administration's hard-line stance on development assistance, citing a recent decline in U.S. aid and tougher conditions applied to trade with the Third World.

Those included a U.S. decision in March to end duty-free import status on about \$900 million worth of goods from developing countries and what they called U.S. reluctance to support the International Development Agency, an arm of the World Bank.

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## Alabama Legislature Welcomes Jesse Jackson

By Art Harris  
Washington Post Service

MONTGOMERY, Alabama — The Reverend Jesse Jackson, testifying before the Alabama legislature, became the first black man ever to address a joint session of Alabama's legislature, and his rousing message of racial reconciliation and economic recovery was received warmly.

A rapid audience of state legislators, most of them white, and black supporters in the packed chambers interrupted the civil rights leader 12 times with applause Tuesday.

White lawmakers especially warmed to his attacks on foreign nations for what he called unfair trade practices that have cost Alabama's steel mills and rubber plants thousands of jobs.

Mr. Jackson at times even sounded like his former arch-enemy, Governor George C. Wallace, as he railed at "Hondas

and Toyota, Suzuki and Yamaha, Sony and Panasonic, being unloaded at the docks and replacing Buick and Chrysler in the American market."

"We put too much focus on the schoolyard and not enough on the shipyard," said Mr. Jackson, who is stumping the South on a voter registration drive that he hopes will enroll 3 million blacks.

Representative Charles Adams, 49, a white conservative, called the speech very inspirational and said: "He makes some good points about our economy. It's about time we forgot about black and white and started talking about employed and unemployed."

It was a day full of milestones for a black leader who dodged police dogs and clubs 17 years ago on the bloody march from Selma to Montgomery with Martin Luther King Jr.

"This has been a marvelous place to speak, where Jeff Davis

spoke and Martin Luther King Jr. should have spoken," he said. "Perhaps he was too close for you to see, but he did say we'd learn to live together and move from the battleground to common ground to higher ground."

Mr. Jackson turned the chamber into a revival meeting for coalition politics in a state where the black vote played a crucial role in electing Mr. Wallace to a fourth term. It was a moderate, mainstream Jesse Jackson preaching a "politics of soul."

In an interview, Mr. Jackson called the South the key to a coalition of blacks and progressive whites that will figure heavily in the Democratic nomination and the presidential race. Blacks make up 39 percent to 35 percent of the population in southern states.

The majority of the unregistered black voters in the South are in those seven states, he said, and that's where he plans to mobilize

clergy, local politicians and disc jockeys to inspire blacks to register. Alabama was his third stop after North Carolina and Georgia.

A resolution to invite Mr. Jackson before the legislature passed by voice vote last week. Representative Alvin Holmes pushed it through with little dissent.

"Political power talks," said Mr. Holmes, one of 17 blacks among the 105 legislators.

Representative Harrell Blakely, 62, a former National Guard officer, who last confronted Mr. Jackson on the 1965 Selma to Montgomery march, said: "Time is one of the best healers there is; there's been a lot of changes in all of us in the last 18 years."

Mr. Jackson played down talk of his possible presidential candidacy, saying he will decide sometime in August. He acted like every other Democratic presidential contender who has come courting Alabama, however, by meeting with newspa-

per editorial boards and conferring with Mr. Wallace.

Mr. Wallace graciously received Mr. Jackson, who attempted to rally blacks to defeat the governor during last fall's campaign. On Monday, Mr. Wallace served Mr. Jackson iced tea on the sun porch of the governor's mansion.

"Jesse, you're running for president, huh?" asked Mr. Wallace, according to a recording of the meeting obtained by The Washington Post. "I ran one time, you know. It's a real tough thing running for president. You see what happened to me."

Mr. Wallace has been confined to a wheelchair since a 1972 assassination attempt left him paralyzed.

Mr. Jackson praised Mr. Wallace as a man of "charisma, stature and grace," then he asked him to sign a bill providing for more voting registrars and the registration of high school seniors on graduation day.



The Reverend Jesse Jackson

## California Bars Some Foreign MDs

Los Angeles Times Service

LOS ANGELES — Hundreds of foreign medical school graduates who are now seeking licenses to practice in California have received their education from schools that are "the source of fraudulent documents, contrived educational experiences, unethical practices and worthless diplomas," according to the state's Board of Medical Quality Assurance.

Officials of the board, which licenses doctors, said Tuesday that they had turned down the applications of more than 200 graduates of one of those schools, CETEC University in the Dominican Republic, because of allegations that the school has misrepresented the educational experience of its students and routinely granted medical degrees to some students who had never set foot on the Caribbean island.

Last week, the board's division of licensing unanimously agreed to decertify the school, the first time it has taken such a step against a medical school, either domestic or foreign.

The state investigation is but one sign of a growing national concern about the education received in foreign medical schools, especially those that cater to Americans who have been denied admission to medical schools in the United States.

California is not the first state to refuse to recognize foreign medical degrees.

Three years ago, licensing officials in Illinois decided to decertify three Caribbean medical schools, only to have their decision overturned by the courts. Whether Illinois will finally go ahead and allow graduates of the schools to practice there is now being discussed by the state's Medical Examining Committee.

Illinois has, in fact, successfully decertified only one medical school, that of the University of Yaounde in Cameroon.

Some graduates of the schools under investigation have told the medical board staff that they had paid up to \$50,000 for their medical degrees.

## Shultz to Meet Today With SWAPO Leader

By Bernard Gwertzman  
New York Times Service

WASHINGTON — Secretary of State George P. Shultz will meet in New York Thursday with Sam Nujoma, the head of the leading insurgent movement in South-West Africa, and with representatives of key black African countries.

The meeting, State Department officials said Tuesday, would seek to demonstrate U.S. determination to help bring about an equitable settlement of the deadlock on South-West Africa, which is also known as Namibia.

Mr. Nujoma heads the South-West Africa Peoples Organization, which operates from bases in Angola and from within South-West Africa. He is at the United Nations for the Security Council discussion of Namibian independence.

It will be his first meeting with Mr. Shultz, who has decided, aides said, to play a more active role in trying to arrange a breakthrough in the negotiations over South-West Africa's independence from South Africa.

State Department officials said that with Mr. Nujoma due in New York, Mr. Shultz agreed it would be useful to open direct discussions with him and with the African representatives of the so-called front-line states, countries that have negotiated with five Western nations for years on the terms for

UN-supervised independence for the territory.

"There was a clear perception growing in Africa that we were not really evenhanded, that we were too closely aligned to South Africa," an aide said.

But he stressed that the decision for Mr. Shultz to meet with Mr. Nujoma had been reached before South Africa's bombing raid Monday in Maputo, Mozambique, in retaliation for a car-bomb attack last Friday in Pretoria. South Africa said installations of the African National Congress in Mozambique had been attacked in the raid, but that has been disputed in reports from Maputo.

U.S. officials said that details on a formula for Namibian independence have been almost worked out, but that it still depended on a parallel accord with Angola on the withdrawal of Cuban troops from its territory. In the past, Angola has rejected attempts to link the Namibian issue to the presence of Cubans in Angola.

Last month Mr. Shultz held an unpublished meeting in Washington with Lieutenant Colonel Manuel Alexandre Rodrigues, Angola's interior minister, to discuss security problems in Angola in connection with a Cuban withdrawal, officials said. After Colonel Rodrigues returned to Angola, President Jos Eduardo dos Santos flew to Moscow for talks that U.S.

officials believe are crucial to hopes for a settlement of the deadlock.

A senior State Department official said Tuesday that Washington was awaiting word in the next few days from London on a time and place for another meeting between Angolan and U.S. officials.

The United States is negotiating with South Africa and the African nations on Namibian independence as part of the Western "contact group," made up of Britain, Canada, France, the United States and West Germany. The African front-line states are Tanzania, Zambia, Angola, Botswana and Mozambique. Nigeria, Zaire and Zimbabwe are also regularly consulted.

Mr. Shultz will meet with senior representatives of those African countries and later with Mr. Nujoma at a hotel near the United Nations, officials said.



Sam Nujoma

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## High Court Bias Ruling Attacked From Pulpit

President of Bob Jones University Says U.S. Freedoms Are Being Lost

By Phil Gailley  
New York Times Service

WASHINGTON — The Reverend Bob Jones 3d chose as his sermon topic on Tuesday the U.S. Supreme Court.

The court, in an 8-1 decision Tuesday, upheld the government's right to deny tax-exempt status to Bob Jones University because of racial discriminatory policies.

Mr. Jones, president of the university in Greenville, S.C., learned of the decision shortly before addressing students at their mandatory daily chapel meeting.

"We're in a bad fix in America when eight evil old men and one vain and foolish woman can speak a verdict on American liberties," Mr. Jones told the students at the evangelical school that his father founded in 1927. "Our nation from this time forward is no better than Russia insofar as expecting the blessings of God is concerned. You no longer live in a nation that is religiously free."

In Washington, the closest thing to an emotional response to the court's action occurred at the Justice Department, where some lawyers in the civil rights division were elated. More than 100 of the division's 175 lawyers last year signed a letter protesting the Reagan administration's position in support of Bob Jones University.

The Reverend Jerry Falwell, founder of Moral Majority, called

the decision "a blow against religious liberty."

Margaret Bush Wilson, chairman of the board of the National Association for the Advancement of Colored People, said the decision showed that the Supreme Court would not be part of the Reagan administration's effort "to turn the constitutional clock back to the days of separate but equal."

The director of the NAACP Legal Defense and Educational Fund, Jack Greenberg, called on President Ronald Reagan to make a vigorous effort to identify private schools that are discriminating and to suspend their tax status, and added: "Now is the time for Reagan to make good his assertion that he is in favor of lifting tax exemption for discriminatory schools."

Mr. Greenberg was referring to a statement made by Mr. Reagan last year when the Treasury and Justice Departments, with the president's approval, announced that the Internal Revenue Service would no longer deny tax exemptions to private schools that practiced racial discrimination.

Mr. Reagan's only comment came as he was leaving a White House ceremony. "We will obey the law," he said.

Bob Jones University lost its tax-exempt status in 1976 and was sued by the government for \$490,000 in back taxes. The school's officials said it would be able to survive in the face of Tuesday's adverse ruling by the Supreme Court.

Some of the more than 100 other private schools that have been de-

nied tax exemptions because of their racial policies may have a more difficult time staying open, according to an official of the National Christian Action Coalition, a Washington-based lobby for private Christian schools.

Robert D. Billings, the group's director of operations, said: "My guess would be that some schools will have to close as a result of this decision. It's definitely going to hurt, but what can we do? The Supreme Court has spoken."

■ Tax Credits Advance  
Earlier, Thomas B. Edsall of The Washington Post reported from Washington: The Senate Finance Committee approved 11-7 a bill to give tuition tax credits to parents of children in private schools. The House has taken no action on such a bill.

The committee vote was a victory for Mr. Reagan, who campaigned in favor of tuition tax credits in 1980.

For the poor who pay no taxes, the credit would be refundable, meaning the government would send the parent a check.

## O'Hare Is Still Busiest Airport In the World

United Press International  
WASHINGTON — Chicago's O'Hare International Airport continued to handle more passengers than any other airport in the world in 1982, according to airport operators.

O'Hare handled 37.7 million passengers last year, the Airport Operators Council International reported Tuesday in its annual summary of operations at 430 major airports.

There were no major shifts in the rankings, although New York's Kennedy International traded places with London's Heathrow Airport and was ranked fourth last year.

Hartsfield Atlanta International and Los Angeles International remained second and third.

## White House Said to Open Talks To Avert Showdown on Nicaragua

By Don Oberdorfer  
Washington Post Service

WASHINGTON — The Reagan administration has opened negotiations with House Democrats on a plan to avert a showdown on U.S.-backed undercover operations in Nicaragua by permitting Congress to vote on the operations later this year, according to informed sources.

The drive for a negotiated settlement of the executive-legislative dispute over the anti-Sandinist forces was described Tuesday by a senior member of the Foreign Affairs Committee, Representative Lee H. Hamilton, as "in very early stages of consideration."

Mr. Hamilton, a Democrat of Indiana, said he met Monday with Assistant Secretary of State Thomas O. Enders about the plan and was considering a written proposal drafted by the administration. He declined to give any details and said he did not know whether he could support the ideas.

The administration plan, as reported by the sources, would require President Ronald Reagan to send Congress a new official "finding" that the secret operation is in the national interest and give the lawmakers 30 days to veto it by joint resolution of the two houses.

The proposal is similar in some respects to that adopted May 6 by the Senate Select Committee on Intelligence. That panel agreed to finance CIA covert operations in Nicaragua until Sept. 30 but required that a new "presidential finding" be approved by the committee to carry on the operations after that.

In announcing this committee action, the chairman, Barry Goldwater, a Republican of Arizona, said it was acceptable to Mr. Reagan.

Three days earlier, the House Permanent Select Committee on Intelligence had voted a flat prohibition on U.S. involvement with guerrilla forces fighting the Sandinist

ist regime. Instead, the committee authorized \$80 million in new aid to friendly states in the area for open activity to stop the flow of arms to leftists.

The plan was adopted by the committee's Democratic majority, 9-5, on a party-line vote.

Because it involved expenditure of funds for open interdiction aid, the House panel's proposal was sent to the Foreign Affairs Committee for further action.

A showdown meeting of the committee had been scheduled for Tuesday morning, but was put off Monday because of parliamentary objections by Republicans.

Representative William S. Broomfield, of Michigan, the committee's senior Republican, said there is "some movement" toward a bipartisan settlement within the committee, but declined to predict whether the negotiations would succeed. A similar assessment was made by Representative Dante B.



Thomas O. Enders

Fascell, of Florida, a senior Democrat.

Representative Wyche Fowler Jr., Democrat of Georgia, a senior member of the intelligence panel, said that for security reasons he favored permitting the intelligence committees of both houses to vote on a new presidential "finding" about such secret activity, rather than submitting it to a full vote of the two houses.

## Central America Policy Opposed in U.S. Poll

By Barry Sussman  
New York Times Service

WASHINGTON — A sizable majority of Americans sees entanglement in the problems of Central America as a greater danger to the United States than the spread of communism there, according to a new Washington Post-ABC News survey.

Most citizens polled, including many who are otherwise strong supporters of President Ronald Reagan, said they sharply opposed any increase in U.S. involvement in Central American struggles. For example, by a ratio of more than 3-to-1, they opposed Mr. Reagan's proposed increase in military aid to El Salvador in its fight against leftist guerrillas.

Although a majority accepted Mr. Reagan's argument that Central American problems "directly affect the security and well-being of our own people," only three of every 10 people polled said they believed the problems posed a serious threat to the United States.

A broad consensus of more than 80 percent also accepted Mr. Reagan's view that a rebel victory in El Salvador could destabilize the region and that the Soviet Union, Cuba and Nicaragua were working to accomplish that end. But, by a ratio of more than 2-to-1, those polled said they believed "poverty and the lack of human rights" were a greater cause of unrest in Central America than subversion.

By an even greater ratio, 6-to-1, the Americans polled said they opposed any secret attempt to overthrow Nicaragua's leftist government, regardless of its support for the Salvadoran rebels. Congress is

currently considering whether to cut off covert Reagan administration aid to Nicaraguan insurgents trying to topple the government in Managua.

Many citizens polled were skeptical of declarations by Mr. Reagan and other officials that the administration has no intention of sending U.S. troops to El Salvador. While 46 percent said they believed such statements, 40 percent said they did not and 14 percent expressed no opinion.

By a ratio of more than 2-to-1, those polled said they believed Mr. Reagan would seek to send troops to El Salvador if the government there cannot defeat the rebels. But they opposed such a move, even as a last resort, by almost a 6-1 ratio.

The Post-ABC News survey of 1,501 people took place May 11 to May 15. It asked: "Which would you say is a greater danger to the United States: the spread of communism in Central America because the U.S. doesn't do enough to stop it, or the U.S. becoming too entangled in internal Central American problems as a result of trying to stop the spread of communism?"

Fifty-five percent said entanglement, 34 percent said communism, and 11 percent offered no opinion.

Diary Found on Everest

United Press International  
KATMANDU, Nepal — Sherpa guides found the diary, gloves and helmet of Yasuo Kato, a Japanese mountain climber believed to have frozen to death in December after making the first winter ascent of Mount Everest, it was reported Wednesday.

## Chile Ends Suspension of Independent Radio Station

International Herald Tribune

SANTIAGO — Radio Cooperativa, Chile's most widely heard independent radio station, was back on the air with news programs Tuesday after a suspension of 10 days imposed by the government.

President Augusto Pinochet ordered the lifting of the suspension in what appeared to be a conciliatory gesture toward the opposition, which organized the "national day of protest" May 11.

Two persons were killed during

demonstrations against the military regime of General Pinochet that were the most open dissent here in nearly 10 years.

The regime's initial reactions were characteristically repressive. Police arrested thousands for identification in raids on workers' neighborhoods. More than 350 people were held for trial, and charges were brought against 10 copper miner union leaders who called the day off protest. Radio Cooperativa was closed for alleged

inciting the disturbances by broadcasting live the sound of women hanging kettles and motorists blowing auto horns.

But after distributing the demonstrations to a "Russian plot to bring down the government," General Pinochet apparently has begun to listen to moderate advisers who have warned that hard-line repression now can produce violent reactions.

Radio Cooperativa celebrated its return with a news report covering

subjects that most other stations avoid. They included reports on an appeal by the mother of Victor Rodriguez Collis, a student killed May 11, of a court order releasing two detectives who had been charged with shooting their pistols where the youth died.

It also covered the friction between Chile and France since Claude Cheysson, the French minister of external relations, said, as the radio reported, that the Pinochet regime was a "curse on Chile."

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# Herald Tribune

Published With The New York Times and The Washington Post

## Chemical Weapons?

The Reagan administration keeps plugging away to put the United States back in the business of making new chemical weapons, whose manufacture President Nixon renounced in his first term. This year it seeks \$48 million for 155mm binary chemical artillery shells and \$66 million for equipment and chemicals for Bigeye binary bombs. But its case for building these weapons gets no better and in some ways gets worse.

The basic case argues that the United States must modernize its chemical stockpile to meet the Soviet chemical threat in Europe. But why must a chemical threat be met with chemicals? Almost all Europeans react in revulsion against prospective use by either side. Fortunately, NATO has many other military means with which to deter and defend against a Soviet attack of whatever sort.

Meanwhile, events raise other considerations. The new binary weapons are hailed for their safety features. But last year the Pentagon discovered that the Bigeye bomb might explode in the plane en route to target, and it was forced to defer a request for production

funds. The very real issue of the danger that chemicals pose to users is further illumined by accounts of the accident at a Soviet chemical facility in Sverdlovsk in 1979. About 1,000 people were said to have died.

Soviet or Soviet-sponsored use of chemical and biological agents in Indochina and Afghanistan has given the West a powerful political argument. At the same time, such use has raised the requirement for solid verification measures at the long-running Geneva negotiations on destroying old chemical weapons and banning new ones. Few people expect early results from those talks.

But that is no good reason for America to resume production of weapons of dubious military value and heavy, negative political weight. Such weapons are not a big-ticket political item like the MX, but there is a considerable bureaucratic investment in them. The burden is on Congress, especially the House, to ensure that the United States does not break the production moratorium it established 13 years ago to its honor and profit.

—THE WASHINGTON POST.

## Pray for the Schools

The commencement message at a college near Washington last week was that humans would have to learn to work with computers. What gave this amiable message its special interest was that it came from a chrome and fiberglass machine named Robot Redford.

There was another kind of commencement message the next day, in South Orange, New Jersey: American education is in trouble, and federal money can't help. The speaker was Ronald Reagan. It might as well have been a robot. For the third time in three weeks he repeated the same message, as oblivious to contradiction and rebuttal as a tape cassette.

"The road to better education for all our people simply cannot be paved with more and more recycled tax dollars collected, redistributed and over-regulated by Washington bureaucrats," Mr. Reagan said at Seton Hall. That has been his response since he received the report of a commission expressing alarm about the decline in education.

Yes, he seems to say, education is in a sorry state. It declined during the years that federal aid to education was growing. Federal aid is, therefore, not helpful but harmful. Effective reforms do not involve money. To illustrate, he cites the work of principals in the Bronx or in Austin, Texas. But he seems impervious to what those very principals have to say.

Frances Vazquez, the Bronx principal he refers to, agrees that some things don't take money. But then consider remedial math and reading; 16 of her teachers are paid with funds from a Great Society program for disadvantaged children. "If we didn't have these teachers, it would be devastating."

Adan Salgado, the Texas principal, makes two points. Federal money is essential; without it, he could not have provided, among other things, a computer. Second, he praises federal desegregation requirements. These have brought white middle-class enrollment. His school would have remained "the doorman of the district" otherwise.

"We created the greatest public school system the world has ever seen, and then have let it deteriorate," President Reagan says. "I think you can make a case that it began to deteriorate when the federal government started interfering in education."

Then what is his answer — for the federal government to stop interfering? Oh, no. Mr. Reagan wants a multibillion-dollar program, to give federal funds to parents who send their children to private schools. He also wants to encourage prayer in public schools. With that kind of federal program, it would be more useful to encourage prayer for them.

—THE NEW YORK TIMES.

## Other Opinion

### The Job for Williamsburg

Many people, especially those who ought to know better, seem to regard the forthcoming economic summit at Williamsburg this weekend as a bit of a bore. The meeting could all too easily slide down to these expectations. A cozy fireside chat ending in a banal, question-begging statement from President Reagan, announcing perhaps that the leaders are equally determined to encourage the recovery while maintaining resolute against inflation, is one possible outcome. Another possibility is that the talk will slide away from contentious economic matters and turn, for example, to defense, on which President Reagan and President Mitterrand talk the same language.

Any such result would be worse than unsatisfactory. The whole idea of an unstructured discussion is to leave room for some genuine political development, as a result of which the leaders can do something to harmonize their objectives and make fuller allowance for each other's problems. Only heads of government can produce this kind of change.

It may seem that little time need be wasted on the U.S. deficit, since it is universally regarded as excessive. However, this agreement masks a wide gap in understanding across the oceans. American economic thinking, at the professional as well as the political level, is still largely insular.

The Europeans have learned, through membership of the EC and the EMS, that domestic economic policy must take account of what is happening among trading partners. The Americans (and to a large extent the Japanese) have yet to acquire this habit of thinking.

President Reagan must somehow be persuaded that although American businessmen and consumers, who enjoy the benefit of tax deductibility, may find current dollar interest rates manageable, they threaten American interests in the outside world. They lead to overvaluation of the dollar, and so destroy jobs in U.S. industry. More threatening, perhaps, they impose an unmanageable debt service burden on many developing countries.

—The Financial Times (London).

### The New Leaders of China

The new generation at the top in China does not yet have the experience, authority or range of vision of the old guard, and no new Chou En-lai or Deng Xiaoping has yet emerged. But the new men are characterized by pronounced self-confidence and a big dose of Chinese nationalism. Some of them seem to expect more than the country is capable of performing, and others may pay too little heed to past warnings that China should never try to become a superpower. But they are all convinced that they can modernize China in the foreseeable future and assure it of a decisive role in the world.

—New Zürcher Zeitung (Zurich).

China continues to advertise its list of grievances against the United States, and in Peking the word is out that a reassessment of policy toward Washington is under way.

There is no doubt that China's sensitivities toward the United States have grown more acute since the Reagan administration took office. The Reagan administration has in fact approved smaller arms sales to Taiwan than did the Carter administration, yet while Beijing largely ignored the big arms deals of the late 1970s it has chosen to make a major issue of the lesser deals of the early 1980s.

There is talk in Beijing of once again giving primacy to relations with Eastern Europe and even of moving to restore closer ties with the Soviet Union. Some of the talk may be only a political weapon to embarrass those who were the strongest advocates of closer ties with the United States and are now being accused of promising more than they could deliver. Some undoubtedly reflects the ideological inclinations of those who were never comfortable with those ties. Can the United States influence the course of Chinese decision-making on this issue? Yes and no. Substantively, especially on Taiwan, what it can do is limited. Stylistically, by speaking and acting with prudent restraint, it should try harder to avoid giving support to those in Peking who advocate taking a harder line toward Washington.

—The Los Angeles Times.

## Much May Depend On Williamsburg

By Robert J. Samuelson

WASHINGTON — Unless something surprising happens, the economic summit at Williamsburg this weekend will be dreadfully dull. Don't complain. Boredom can sometimes be virtuous.

The conventional judgment is that economic summits are cosmetic, although past meetings have occasionally produced modest agreements or better disputes. But at this summit, maintaining outward appearances — the veneer of calm and collaboration — may be the greatest contribution the leaders can make.

Nothing is now more important than economic recovery, and part of any recovery is psychology. Optimism, like pessimism, tends to feed on itself. If the leaders do nothing to break the mood, they may have done something after all.

The truth is that many of today's global economic conflicts are not solvable without renewed growth. They are beyond political solution. And if recovery doesn't materialize, the damage to global economic relations and the prospects of future growth may take years to repair.

Burdened by large debts, many developing countries have been unable to repay loans on time. Without a recovery, the handling of these debts becomes difficult, if not impossible.

Only by increased foreign exchange earnings — dollars, marks and other widely used currencies — from higher exports can these countries service their debts. Otherwise the debt burden requires draconian import cuts that cripple their economies (they need imported raw materials and industrial goods) and erode their willingness to service the debts. Brazil and Mexico, for example, have already achieved trade surpluses

by reducing imports sharply. Mexico's 1983 imports are projected at roughly \$14 billion, nearly \$9 billion less than in 1981. Brazil's estimated 1983 imports of \$17 billion would be \$6 billion less than in 1980.

But the debt burdens have not yet lightened, and the trade surpluses do not even cover interest on outstanding debt. The countries have borrowed more and increased their debt loads. By the end of 1983 Brazil's debt may approach \$90 billion, up from \$69 billion at the end of 1980. Mexico's debt is headed toward \$34 billion, up from \$31 billion.

If this piling of debt on top of debt looks unsustainable, it may be. Many economists believe that only a significant rescheduling, postponing principal payments and lightening interest payments, will suffice. Some debts might have to be written down.

Resumed world economic growth offers the only possible escape. Economist William R. Cline of the Institute of International Economics has estimated that a 3-percent growth rate in the industrial world would ease debt pressures significantly. Export volumes are extremely sensitive to growth. By Mr. Cline's figures, every 1 percent of economic expansion raises developing-country exports by 3 percent.

He may or may not be right. But even if a major rescheduling becomes unavoidable, it is clear that the negotiations would be much easier in an atmosphere in which expanding exports improve the prospects of ultimate repayment. And without growth, rescheduling may become superfluous: Some countries may unilaterally declare a moratorium on debt repayment.

The austerity they now accept —



which raises unemployment and reduces living standards — assumes the ultimate restoration of normal trade and credit relations. If that prospect fades it is hard to imagine developing countries inflicting continued hardship on themselves simply to repay foreign banks. So economic growth should dominate the Williamsburg summit. At risk is the fabric of international economic relations.

On the one hand, debt defaults threaten to disrupt the global credit network that sustains trade; in 1982, developing countries absorbed 44 percent of world imports. On the other hand, large losses to banks could impair their ability to make the new domestic and foreign loans

needed for recovery. Similar logic applies to other global economic problems: protectionism, unemployment, mounting subsidies. Greater growth offers the clearest way of defusing tensions and containing self-defeating economic nationalism.

Hence the need for a calm summit to sustain the mood. The summits symbolize one of the great contemporary contradictions: Political pressures (mostly domestic) and economic realities (increasingly international) diverge. What once bridged this contradiction was economic growth, which benefited everyone. Maybe an amiable summit could help restore some of the old magic.

National Journal.

## About Interest Rates and a Good Recovery

By Evan G. Galbraith

The writer is U.S. ambassador to France.

PARIS — You might think that it is not a dangerous thing to know a little bit about interest rates, but the old warning against limited knowledge is confirmed by the present acceptance of misconceptions about U.S. interest rates. Two clarifications: First, interest rates are not the primary reason why the dollar is strong against certain currencies; second, the current level of interest rates will not stifle the economic recovery now under way in the United States.

The dollar's strength has other reasons: Since the war the dollar has been the reserve currency of the world, held widely by central banks and institutions. The dollar has this status because of the strength of the U.S. economy and of its capital markets; the underlying values are there and one can deal in large amounts. Moreover, the United States is regarded by many as a safe haven from turmoil and the threat of the Soviet Union. Reserve status does not mean the dollar is immune to fluctuation. It does mean there is a presumption toward the dollar, provided the economy looks healthy and prices are relatively stable.

A comparison of inflation rates is the primary influence in exchange rates. If prices in one country are rising at 4 percent and in another at 12, common sense dictates that the currency losing its purchasing power three times faster than the other is mathematically going to lose value against the other in the exchange markets. Moreover, markets anticipate trends and the relative values of currencies are often established before the actual mathematics are achieved. Inflation has dropped in the United States from about 13 percent in 1980 to 4 percent in 1983. In countries where inflation has continued to comparable levels the dollar has stabilized or risen, where it has not, the dollar continued to strengthen.

Any deficit in the merchandise balance of payments is normally covered by the flow of invisibles — interest, dividends, royalties, etc. Any remaining deficit is covered up by the capital account. The average annual inflow of foreign capital to U.S. credit markets in the last six years is about \$23 billion, regardless of interest rates. Estimates for 1983 are about the same. The total credit demand in the United States in 1983 of some \$500 billion (which includes \$200 billion from the federal deficit) will be covered by new savings of about \$575 billion and by advances from the government of around \$90 billion, unrecorded savings of \$50-75 billion, and \$25-35 billion of foreign inflow. Foreign capital is a minor factor in this credit supply.

U.S. interest rates differentiate between short and long term. It is short-term rates which are earned by most foreign capital. Treasury bills and certificates of deposit yield between 8 and 9 percent. Assuming 4-percent U.S. inflation for 1983, the investor calculates a real return of 4-4.5 percent. The differential between these real yields and the real yields on yen, Swiss francs, Deutsche marks and sterling obligations frequently held by foreigners is no longer decisive. The dollar is strong against some currencies such as the French franc largely for the reasons cited above, not because of high interest rates.

For the second misconception, the effect of interest rates on the economic recovery, we must look at the effect on both the producer and the consumer. Most producers are still borrowing largely at short-term rates (usually under bank-guaranteed lines of credit which are granted for the medium term, i.e., one to 10 years), trying to decide when to go to the long-term bond market. Those who are waiting think long-term rates will come down. Present short-term cost for commercial paper is about 8.5 percent and bank loans may be around 9.5 percent. (Contrary to what is commonly thought, prime rate is not for most

prime customers.) Many corporations have ample cash arising from increased profits and tax relief. Some corporations have already gone to the bond market; others, taking advantage of the bull market, have issued new stock.

The question of money for most corporations is not whether it is too costly to make a profit; it is more a question of where it should come from. The cost of money affects profits, but its after-tax cost is not high in comparison with inflation. Most American companies pay income taxes, and interest is deductible. If a company has an incremental tax rate of 50 percent, then the effective interest cost is only about 4.5 percent for short-term money and 5.5 percent for long-term money. These after-tax costs are not enormous if in 1983 and 1984 inflation is 4 percent.

Housing is leading the recovery because of the accumulated demand and the availability of mortgage money at interest households can afford. Automobile manufacturers are offering customer financing at 9.9 percent (tax deductible) and consequently the prospect is good for an increase in sales. Consumer financing for less expensive items is high, at least 18-20 percent, but the customers tend to look mainly at the monthly financing charge. For example, 20 percent per annum on a \$500 television set is only \$4 per month more than financing at 10 percent. Consumer financing is available and the recent rise in retail sales reflects its acceptability.

We are well launched on a recovery and there are several reasons why it will endure. One is the accumulated demand. Another is stable prices; neither production nor consumption is apt to be disrupted by rising prices. Increased productivity and low utilization of plant so confirm. Prospective increases in GNP mean increased savings to meet new credit demands as business expands. In summary, America's large, growing capital market will keep interest costs from derailing a formidable recovery.

International Herald Tribune.

## The OAU After 20 Years: An Asset in Jeopardy

By Colin Legum

This is the first of two articles that consider the achievements, failures and prospects of the Organization of African Unity on its 20th anniversary.

LONDON — African foreign ministers will be busy in Addis Ababa in the days to come preparing a continental summit conference for June 6. The main issue is the future of the Organization of African Unity, founded 20 years ago this week.

Its future was put in jeopardy when for the first time there was failure last year to obtain a quorum for an OAU summit conference. It happened twice in Tripoli, for what was to have been the 19th summit.

Morocco and 17 supporters refused to accept membership for the Polisario's Western Saharan government-in-exile. There was also discord over who should represent Chad, and hostility to Libya's Moammar Gadhafi that led Egypt, Sudan, Somalia and others to refuse to attend in Tripoli. It was decided to move the summit to Addis Ababa, the birthplace and headquarters of the OAU.

A quorum was now assured for the postponed 19th summit, but the OAU still faces the unresolved problems from Tripoli, and these need to be settled before the summit passes on to its 20th anniversary meeting.

Even before the Tripoli fiasco there were signs that the OAU was in serious trouble stemming from its failure to keep alive the sense of African oneness that was so strongly felt at the end of the colonial period.

The OAU was itself born of disunity. The newly independent states were still divided between former English-speaking and French-speaking colonies. Both groups were divided between conservatives and radicals. There was still a suspicious relationship between sub-Saharan Africa and the Islamic north.

No less serious was the basic division between those who stood for complete political unity — led by Ghana's President Kwame Nkrumah, Guinea's President Ahmed Sekou Touré and Mali's President Modibo Keita — and pragmatists who favored an organization with much looser links. The latter group won, and on May 25, 1963, all the independent African states except South Africa and Morocco signed the OAU Charter in Addis Ababa. Morocco declined to sign because

of its objection to the membership of Mauritania, over which the kingdom claimed sovereignty as it does now over Western Sahara. But the Moroccan soon dropped their opposition and signed the charter.

It was an emotional moment in history. Presiding was the aged Emperor Haile Selassie, who had ended Ethiopia's long period of aloofness from the rest of the continent and joined the new wave of pan-Africanism. The Algerian leader Ahmed Ben Bella, fresh from a long period in prison, brought the meeting to a height of enthusiasm when he exclaimed: "Let us all agree to die a little, or even completely, so that the peoples still under colonial domination may be free, and African unity may not be a vain word."

Mr. Nkrumah, the pioneer of the modern phase of pan-Africanism, agreed for the time being to drop his demand for a politically unified Africa. That was the beginning of the end of the suspicious relationship between black African leaders and President Gamal Abdel Nasser of Egypt, who was then at the height of his effort to establish himself as the center of Arab, Islamic and African leadership — rather as Qadafi would like to do today.

It was a time of coming together for the new radicals — Mr. Nkrumah, Mr. Ben Bella, Milton Obote of Uganda, Mr. Sekou Touré — with such moderates or conservatives as Félix Houphouët-Boigny of the Ivory Coast, Léopold Senghor of Senegal, Jomo Kenyatta of Kenya, the amiable but crafty Philibert Tsiranana of Madagascar, King Hassan of Morocco, Prime Minister Sir Abubakar Tafawa Balewa of Nigeria and Habib Bourguiba of Tunisia.

Most of those early pioneers are dead or have been deposed. Mr. Ben Bella lives in exile in France, the country which had imprisoned him. The poet-statesman Senghor has set a precedent by becoming the first African leader to surrender power volun-

tarily. Mr. Bourguiba and the grand old man of French-speaking Africa, Mr. Houphouët-Boigny, are among the few veterans still in office. King Hassan has developed from a playboy prince into an illustrious successor to his father, Mohammed V.

Dr. Obote of Uganda lost his presidency for nine years before regaining it. Tanzania's Julius Nyerere, now one of the most influential figures among pan-Africanists, was still a young man on the sidelines of the 1963 meeting, since his country was not yet independent.

The OAU members committed

themselves to seven principles: to respect each other's equality; not to interfere in internal affairs; to respect the borders of each state; to settle disputes peacefully through negotiation or mediation; to condemn unreservedly all forms of political assassination, as well as subversive activities by neighboring or other states; to dedicate themselves to the emancipation of all African territories; and to observe nonalignment.

These aspirations have been important in guiding relations among African governments. Yet only two have been more or less faithfully observed: respect for the integrity of the borders inherited at independence, and support for the liberation of non-independent territories.

International Herald Tribune.

## LETTERS TO THE EDITOR

### Reagan and Education

Regarding "U.S. Social Programs of 1960s: Dismal Economy, Reagan Says" (IHT, May 11):

In the last few weeks we have seen many articles on the quality of education in the United States and how it has declined substantially in the last few decades. It is not hard to see the source of the problem when one reads that Ronald Reagan sees only two "areas as appropriate for an increased federal role: national security and crime prevention."

I find it demoralizing that the leader of my country believes that the only federal liaison worth forming with the American citizen is one which is carried out by either the police or the military.

It is easy to see why Mr. Reagan has left out the important issue of government aid to education. If the American people were able to obtain a better education, has-been film actors from Hollywood would never be able to make it to the top of any political heap.

JANET LEE WILKINSON, Geneva.

Socrates taught his students to

### Lewis and France

Regarding "The French Passion for 'Fou' Jerry Lewis' (IHT, May 18):

Hats off to Greg MacArthur. To link the opening of "the most extensive retrospective" of Edward G. Robinson with "the world premiere of Jerry Lewis' latest film comedy" as "two major cultural events" is a masterpiece of irony.

With elementary cunning, the American backers of Lewis' penultimate Stateside flop opened it in France, thus assuring themselves of the only unqualifiedly receptive audience in the world, Lewis fans in the United States having long since been put out to grass.

In France, however, mere enter-

## The Anglo Will Have To Adjust

By Flora Lewis

TUCSON, Arizona — Mexico's economic tailspin has brought a spate of distress on the U.S. side, where people have become heavily dependent on border-crossing business. But this is the Sun Belt, and basically there is a good deal of optimism for an expansive future.

Criticism is directed much more at Washington, for what one official called "less than benign neglect" of southern relations, than at Mexico for past mismanagement.

Luis Gutierrez, head of economic development for Tucson, put it bluntly: "The U.S. dillydallied too damned long." In southern Arizona and New Mexico people tend to shrug off Washington's warnings of communism surging up from Central America and propelling a tidal wave of migrants into the United States.

Complaints from liberals and conservatives alike are that the United States is not doing more to help Mexico develop so that the whole region can benefit. There is a remarkable sense of interdependence and enthusiasm for cooperative ventures on both sides of the border. There are examples of local diplomacy that could teach Foggy Bottom a lesson.

Cuban exiles in Miami may have cheered President Reagan's nostalgia for the "big stick" part of Teddy Roosevelt's forays into Latin America. In this part of the Southwest, there is instead a sense of neighborhood mutual interest more reminiscent of Franklin Delano Roosevelt.

Gov. Tony Anaya of New Mexico, who likes to call himself the highest elected Hispanic in the United States, is trying to launch a national "Hispanic force" both for ethnic advancement and to help improve relations with people to the south.

Mr. Anaya, 42, is a Democrat. He says that at this stage the movement is being organized as a partisan pressure group. Originally the idea was for a general coalition of Spanish-speakers. Now the Democratic presidential candidate in 1984 has been perceived as the key pressure point.

Nobody knows for sure how many eligible voters there are in the country out of 14.6 million Hispanics registered in the 1980 census, which introduced the category for the first time. Another 5 million or more are estimated to be here illegally.

Mr. Anaya says only 3.5 million are now on the voting rolls. His goal is to bring that up to 5 million before the presidential election, and then to offer support to the Democrats in return for a pledge of appointments and a voice in policy formulation.

"We don't want just someone named to take care of Hispanic affairs, as they wouldn't name an Anglo to look after Anglo affairs," the soft-spoken governor said in Santa Fe. "We want to participate in the whole national debate, the budget, MX, foreign policy, so on."

Demographic projections show Hispanics becoming the largest minority by the end of the century, outnumbering blacks. Wags say signs in shops in the Southwest will say "English spoken here." The controversial issue of assimilation or cultural separatism is treated with depth and perception by Thomas B. Morgan in the current issue of Esquire.

There are divisions among and within the main groups: Mexican-Americans, Puerto Ricans, Cuban-Americans. That will be a barrier to Mr. Anaya's ambition for an effective voting bloc. But it is already clear that Hispanic politics has arrived on the scene, and that U.S. foreign policy will be affected.

Economic and social reasons also promote a larger consensus on the approach to Latin America in this growing part of the country. People are uneasy about the new immigration bill, of two minds about its effect more than clearly for or against. Amnesty provisions for illegal immigrants are welcome, although there is worry about how they will be applied. Hispanic and Anglo employers, who will be liable to fines and jail terms for hiring illegals, share concern about the effects. A new law may reduce exploitation but buttress discrimination. They do not find it hard to agree that more opportunity in Mexico would be a better solution for both sides, and bring more trade.

A lobby is emerging that will affect not only the texture of life in the United States but its relations with the world. It is encouraging in regional terms. Europe can beware.

The New York Times.

JAMES PRICE, Gstaad, Switzerland.

### The Middle Pays

Regarding "Watergate Burglar Is Pardoned But Hunt, Magistrate Are Rejected" (IHT, May 16):

It seems that the ones at the bottom and the ones at the top have all got away with it. It's the ones in the middle who are unpardonable. The lesson of Watergate is that if you want to be a crook, either be a small one and get lost in the crowd, or be a big one beyond the grasp of justice. Society abhors a moderate.

NORMAN SANDERS, Ipswich, England.

## FROM OUR MAY 26 PAGES, 75 AND 50 YEARS AGO

### 1908: Entente Cordiale on Show

LONDON — The President of the French Republic received the heartiest of welcomes on his arrival on a State visit to King Edward. Victoria Station and its vicinity were one mass of color. Crowds of enthusiastic spectators lined every approach. London has seldom seen so many of its people assemble to welcome a foreign guest. King Edward and the Prince of Wales awaited the arrival of President Faillieres at Victoria Station. In the evening, President Faillieres was present at the dinner given in his honor at Buckingham Palace. King Edward said: "The existence of the Franco-British Exhibition shows more than ever the entente cordiale between our two countries."

### 1933: Senate Probe Lists Names

WASHINGTON — Delving deeper into the secrets of the banking house of J.P. Morgan, the Senate banking subcommittee produced new lists of prominent persons, including former President Calvin Coolidge, Bernard Baruch and 71 others, who were afforded an opportunity to buy stocks through the Morgan firm at below market price. These revelations were made after the Senate inquiry moved from the cramped committee room, where the first two sessions took place, to the more commodious Senate caucus chamber to accommodate a curious crowd. William Woodin, before he was secretary of the Treasury, was among the Morgan clients let in on stock purchases.

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## U.S. Campus Split By Tie to Scholars At Hoover Center

By Wallace Turner  
New York Times Service

**PALO ALTO, California**—The Stanford University campus here has been gripped for a month by a dispute between some faculty members and students on one side and, on the other, research scholars associated with the Hoover Institution on War, Revolution and Peace.

The Hoover, as it is known here, has blossomed proudly as President Ronald Reagan has named some of its fellows to high government jobs. Mr. Reagan, in the semi-independent institution's most recent annual report, is quoted as saying, "You built the knowledge base that made the changes now taking place in Washington possible."

Liberal faculty members at Stanford are offended by the reputation of the Hoover Institution as a politically conservative center for research on social and economic issues. It has become nationally known as a font of conservative thought, serving the Reagan presidency as the Brookings Institution, a liberal think tank, served the Kennedy administration.

This has roused what liberals at Stanford say is their concern for academic independence and integrity, but what several Hoover fellows retort is the liberals' "greed, envy and partisanship."

In mid-April, John Manley, a political science professor and Ronald Reagan's English professor, circulated petitions that called for Stanford's trustees to start an "immediate inquiry on the relationship between the Hoover Institution and Stanford." Mr. Manley said Friday that 84 of 1,100 faculty members signed it. Supporters also say 1,500 students have signed the petition.

The issue is scheduled for discussion by the faculty at a meeting Thursday.

President Herbert Hoover, an

1895 graduate of Stanford's first class, founded the institution in 1919. It was a research center specializing in foreign affairs until 1959 when Hoover, then 85, selected W. Glenn Campbell as director, with Stanford's approval.

Mr. Campbell had been research director for the U.S. Chamber of Commerce and for the American Enterprise Institute for Public Policy Research. He moved the institution into domestic policy research, and greatly increased its endowment, which Stanford manages.

The institution's budget is \$8.4 million, of which Stanford contributes \$2.7 million to finance the Hoover Library. Support for research and other operations is from endowment income and unrestricted gifts. The institution has expanded into two new buildings, one of which was built with federal funds appropriated in 1975.

Mr. Campbell is chairman of the board of regents of the University of California, which includes the Berkeley campus, Stanford's archrival. He was named to the board by Ronald Reagan, then governor of California, in March 1968. Since becoming president, Mr. Reagan has appointed Mr. Campbell chairman of the Intelligence Oversight Board and to the President's Foreign Intelligence Advisory Board.

Among the 29 other people with Hoover Institution ties appointed by Mr. Reagan have been Martin Anderson, former policy development assistant; Richard V. Allen, the former national security adviser, and Philip C. Habib, special envoy to the Middle East.

The president and trustees of Stanford review the Hoover's senior fellow appointments, several of whom also teach at Stanford. Liberals at Stanford have grown uneasy over these arrangements, saying they threaten the school's non-partisan reputation.



An East German guard helps Heinz Barth into the dock Wednesday in Berlin.

## Former SS Officer Tried in East Berlin

The Associated Press

**BERLIN**—The trial of a former Nazi SS officer accused of taking part in the massacre of about 600 civilians in occupied France opened before Western reporters in an East German court Wednesday.

Prosecutors have charged Heinz Barth, 62, with war crimes and crimes against humanity for reprisals against civilians in France and Czechoslovakia during World War II. He was sentenced to death in absentia by a French military court in 1953.

Western journalists were invited to attend the trial, a highly unusual move in this tightly run Communist country. The authorities distributed statements saying East Germany had tried 12,858 persons suspected of war crimes between 1945 and 1963.

The defendant limped into the courtroom and was allowed to sit down during questioning, which centered on his prewar role in the Nazi Party.

As journalists crowded into the public galleries, the state prosecutor, Horst Busse, read out the charges against Mr. Barth. No plea was entered at the beginning of the trial.

Mr. Busse said the court would also determine how Mr. Barth was able to live in East Germany, undetected by authorities, until his arrest.

The former SS officer lived in his home village of Grasse, north of East Berlin, until taken into custody by police after his arrest.

Prosecutors said he was a platoon leader of the SS Der Führer tank regiment, which murdered 642 residents of Oradour-sur-Glane, France, in 1944. Among those killed in the massacre were 203 children and 241 women.

The indictment said Mr. Barth personally shot at least 20 men.

Prosecutors also said the defendant was suspected of having taken part in the slayings of 92 Czechoslovaks in 1942.

## Former Army Officer Urges U.S. Not to Abandon Afghan Rebels

By Leslie H. Gelb  
New York Times Service

**WASHINGTON**—Andrew Eiva did not want the Mujahidin guerrillas fighting Soviet troops in Afghanistan to suffer the same fate as the friends and relatives of his parents in Lithuania after World War II. To him, that meant only enough U.S. covert support for "freedom fighters" to satisfy American political concerns, only enough for the liberation movement to die slowly, and in the end, not even that.

So, three years ago, Mr. Eiva gave up his commission in the U.S. Army and went off to Afghanistan and elsewhere to train guerrillas. He was jailed by the Pakistanis for meddling, and is under investigation by the Federal Bureau of Investigation for possible violation of the Neutrality Act.

In the meantime, he wrote a Senate resolution introduced by Senator Paul E. Tsongas, Democrat of Massachusetts, calling for more aid to the Afghan rebels.

The resolution has been co-sponsored by 99 senators, all but Charles McC. Mathias Jr., Republican of Maryland, who demurred on the ground that it promised more than the United States would deliver and would lead only to dashed hopes for the Afghans.

Even though he knows President Ronald Reagan has ordered an increase in the quantity and quality of aid to the guerrillas, Mr. Eiva, a former army captain, said he has been out in the field with them and does not see the results.

"What I saw," he said, "was anti-tank mines without fuses, demolition equipment with parts that don't match, mortars of poor accuracy and range with rounds that are mostly duds, and shoulder-fired anti-aircraft missiles that aren't effective."

He also contends that Pakistan is diverting a good deal of the best equipment and arms for itself, a point one U.S. intelligence official says is true.

Last week Mr. Eiva opened a one-room office in Alexandria, Virginia, for the organization he calls American-Afghan Action. Paul Weyrich, head of Coalition for America, a conservative lobbying group, gave Mr. Eiva \$2,000 to open the office, with a commitment of \$1,800 more.

Mr. Eiva counts the score of U.S. support for liberation movements since World War II "as 0 to 12, with Afghanistan as lucky 13." The other such ventures supported and then dropped by Washington he lists as Lithuania, Albania, the Ukraine, Poland, Tibet, China, Cuba, Kurdistan twice, Angola, the Hmong tribe in Laos and Sumatra.

The one that fires his imagination most is Lithuania. His grandfather, General Kazimieras Ladyga, fought the Russian revolutionaries at the end of World War I and was chief of staff of the armed forces of independent Lithuania from 1925 to 1927.

"He left the service," Mr. Eiva said, "because he and my grandmother were prominent social dem-

ocrats and opposed the slide toward dictatorship in Lithuania. "Their main objective," he added, "was Lithuanian independence," something that was lost when Soviet troops occupied the country in 1940.

Mr. Eiva, who was born in a refugee camp in Bonn in 1948, was reared on stories about Lithuanian resistance, American support and, finally, abandonment.

■ **Alghan Fighting Reported**  
The U.S. State Department says Soviet military actions continue against civilian areas in Afghanistan despite reports of a truce with Afghan rebels. United Press International reported Wednesday from Washington.

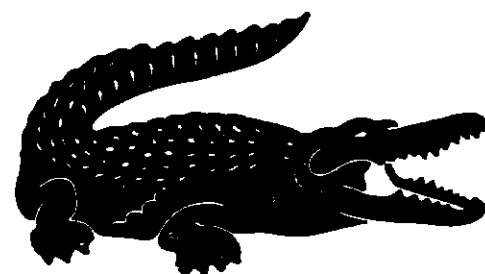
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## Steel Fights to Bolster Sagging Alliance in U.K. Election

By R.W. Apple Jr.  
New York Times Service

**MARPLE, England**—It was not a good weekend for the new alliance of the Liberals and the Social Democrats, the "third force" that only a year ago seemed on the verge of fulfilling its bold pledge to "break the mold" of British politics.

Roy Jenkins, the Social Democratic leader, had more or less wasted an hour of network television time, allowing himself to be forced constantly onto the defensive by a tough interviewer. Three polls had shown the alliance running a weak third behind the Conservatives and Labor, and a fourth poll had suggested that all 29 Social Democratic members of Parliament, including Mr. Jenkins, were in danger of losing their seats in the general election June 9.

But David Steel does not discourage easily. A slight, boyish-looking Scot, he still has about him something of the earnest air of the Presbyterian minister in which he grew up, even after 20 years in politics. Mr. Steel, 45, who leads the Liberal Party and is chairman of the alliance campaign, is also the most popular of the four alliance leaders, according to the polls.

He exuded optimism as he sped from one constituency to another on a recent day. From 11 A.M. when he arrived at a seaside golf links by helicopter from London, until well past midnight, "David Steel's Boutique," as it was identified by Day-Glo signs in Liberal orange—made the circuit of alliance targets in the Manchester and Liverpool metropolitan areas, the largest in northern England.



David Steel, left, and Roy Jenkins, last fall.

He knows what he has to do: He must convince people that a vote for the alliance is not a wasted vote, which will not be easy unless the polls improve. He said that he expects them to do so by the end of the week.

Mr. Steel does not shy, but he and his colleagues have given up any hopes of winning the election outright. What he is trying to do now is convince those who fear a rightist rampage by a House of

Commons with a huge Tory majority that they would be well-advised to give the alliance enough seats to force Prime Minister Margaret Thatcher into a coalition.

"The unacceptability of the Labor Party, with its extremist manifesto, is coming home to many people," he told a crowd in Marple, on the southeastern fringe of Manchester. "So Labor cannot protect us against Thatcherism."

"Equally, some thoughtful Con-

servatives are worried about the consequences of a runaway Thatcher victory next month."

He presents his party as the party of moderation on the key issue of unemployment, neither "shrugging our shoulders in despair" like the Conservatives nor "proposing to spend enormous sums of money the way Labor is." The party makes no promises that it could restore full employment, Mr. Steel said at Southport, north of Liverpool; it promises only to spend enough to reduce unemployment by one million, to 2.5 million, in the next two years.

Mr. Steel knows that his greatest advantage during the campaign is unaccustomed publicity. The television networks have agreed to give the alliance almost as much pre-election air time as the two big parties, and most newspapers are doing the same.

So he tries hard, far harder than Michael Foot, the Labor leader, to give the cameras something different. He signs an autograph in Worsley, a suburban constituency on the west side of Manchester, and holds the book up to show David Lloyd George's signature on an earlier page. He dashes into a dance school and squats down to talk to young women sprawled on the floor in vividly colored leotards.

But sometimes things go hopelessly wrong. It happened Monday in Crosby, the seaside constituency where Shirley Williams scored a stunning by-election upset for the alliance, in 1981. Mrs. Williams, now campaigning to hold the seat, led Mr. Steel into a fiasco through poor planning.

His speech never took place; the supermarket that was to have provided a crowd had not yet opened for business. Desperately improvising, he lifted the hatch in the bus's roof and told the driver to tour the town while he stood and waved and talked through a loudspeaker. But it was luncheon time, the streets were deserted and a high-tension wire nearly throttled him. Mrs. Williams said bravely to a tiny knot of people, "We're delighted to see so many supporters." Mr. Steel said later, when she had left, that the Social Democrats had a lot to learn about organizing things.

As the bus rolled toward Manchester, Mr. Steel relaxed for a moment. He said the alliance represented the best hope of reuniting a nation that he described as increasingly polarized. Figures supplied by the House of Commons library, he added, showed that in the 100 constituencies with the highest unemployment there were only two Tory members of Parliament, and in the 100 constituencies with the lowest unemployment there was only one Labor M.P.

"We live in two worlds," he said, "one southern, prosperous and Conservative, one northern, poor and Labor. We cannot permit that to continue much longer."

## Mine Blast in Ulster Injures 2 Policemen

United Press International

**BELFAST**—A landmine exploded early Wednesday near the border with Ireland, injuring two police officers in an armored patrol car.

It was the second attack in less than 24 hours believed to have been organized by the Irish Republican Army. A car bomb exploded Tuesday near a heavily fortified police station in Andersonstown, injuring 15 people.

## Italian Socialists Bar Ties With Communists

Reuters

**ROME**—Italy's Socialist Party ruled out Wednesday the possibility of forming a coalition government with the Communists after elections next month.

The declaration ended weeks of

speculation over the party's intentions since it forced elections last month by withdrawing support from the four-party coalition government of Amintore Fanfani.

The rejection came in an editorial widely attributed to the party

leader, Bettino Craxi, in the party newspaper *Avanti!*

Since the idea was first floated in March by the party secretary, Enrico Berlinguer, the Communists have repeatedly called on the Socialists to form a leftist alliance to end domination of Italian politics by the Christian Democrats.

The Communists are the second biggest party in Italy after the Social Democrats. They collected more than 30 percent of the vote in the 1979 general election but have not held power for 36 years.

Mr. Craxi reacted coolly to Mr. Berlinguer's initial proposal, but a recent meeting lasting several hours between the two leaders fueled speculation that the two parties were moving closer after years of tension.

The editorial said, "The political conditions simply do not exist for such an alternative in the form it has been proposed by the Communists."

Since Parliament was dissolved and elections called this month, the Socialists have avoided committing themselves to renewing a government coalition with the Christian Democrats.

Christian Democratic leaders have accused the Socialists, who command about 10 percent of the vote, of ambiguity and have argued that they are misleading the electorate.

The accusations reached a new pitch last week when Francesco De Martino, a former leader of the Socialist Party, said he would run for the senate in Naples as a joint candidate with the Communists.

Political commentators said the possibility that the accusations might cost the Socialists some support may have led them to decide to give a clearer indication of their political aims.

## Harvey Gaylord, 78, Ex-President Of Bell Aerospace Corp., Is Dead

New York Times Service

**NEW YORK**—Harvey Gaylord, 78, who had been president of the Bell Aerospace Corp. and an executive vice president of Textron Inc., died Friday in New London, Connecticut.

Mr. Gaylord joined Bell in 1941 and in 1959 was elected president. He then was named president of Bell Aerospace when it became a wholly owned subsidiary of Textron. He was named executive vice president of Textron in 1965.

He was born in Buffalo, New York, and was graduated from Princeton in 1927. He was a director of the American Helicopter Society and the National Science Industrial Association and secretary of the Army Scientific Advisory Panel.

■ **Other deaths:**  
—Dr. Edward Toltels, 86, a specialist in diabetes and an associate professor at Cornell Medical College, died Sunday in New York.

—Lester A. Young, 80, who was twice chairman of the Senate Finance Committee, died Sunday in New York.

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## SCIENCE

## Is the U.S. Falling Behind in Science?

By Philip J. Hilts  
Washington Post Service

WASHINGTON — "Sputnik fear" is back, caused not by a Soviet satellite, but a Japanese and Western European challenge to U.S. domination of science.

American science as a whole still leads the world, according to interviews with two dozen leading scientists in various fields. However, U.S. research in a few fields is now plainly behind the work of other nations, they said, and it is slipping in other fields where this nation still has an edge.

The number of doctorates granted in science and engineering

has dropped about 9 percent since the peak year of 1973.

U.S. spending on research and development plunged 17 percent as a percentage of gross national product between 1968 and 1980, while the Japanese and Western Europeans increased their spending dramatically.

More than one in five doctoral degrees in science and engineering now go to foreign citizens. In some fields, the figures are much higher: In 1981, foreigners got 52 percent of all U.S. doctorates in engineering, 38 percent in agriculture and 31 percent in computing.

Scientists say that some of the most significant cutbacks in federal financing were in the most important areas — fellowships for the best students, aid for good laboratory equipment in universities.

So few science and math teachers now come out of college that one-third of the nation's high school students are taught science by unqualified teachers.

At some universities, the quality of students going into science has dropped, and non-science students are "simply illiterate" in math and science, as the astronomer Geoffrey Burdick put it.

If U.S. primary in science slips much more, scientists say, the best U.S. scientists may begin to desert their laboratories and go abroad, just as many Europeans came to the United States beginning five decades ago.

For the first time in years, however, scientists say they are optimistic. The Reagan administration increased the budget this year for the National Science Foundation, the major source of federal funds for pure research.

"If you asked me a year ago, I would have said things look very bleak," said Dr. Burdick, director of the Kitt Peak observatory, whose staff was cut last year from 340 to 260 people.

The prospects at the moment look good," he said. "But these

(coming budget) increases can't be just a one- or two-year spike. If it's a spike, forget it. That will mean disaster."

Scientists are confident that the United States will continue dominating the annual Nobel Prize awards for a while, but they expressed worry about the erosion of basic research.

Donald Kennedy, president of Stanford University, touched on one recurring fear of scientists.

"The genius of American science is the relation between research and training," he said. "Here, research takes place where the apprentices are." That means that young researchers are able to work independently under the best scientists. In other countries every detail of a young scientist's research is determined by his superiors.

OVER the years, Dr. Kennedy fears, the American system has been greatly damaged. Even with funds for science beginning to rise, the number of students on graduate fellowships is low.

Arthur Schawlow, a laser physicist who has won the Nobel Prize, said another danger is the outdated and dilapidated equipment in many university laboratories.

The quality of students also concerns scientists. Researchers at the "elite" universities say their best graduate students are still very good. But below the very top, there is trouble.

For example, the University of Maryland physics department is regarded as excellent. Yet Edward Redish, the department chairman, said, "We have a serious problem of inheriting students who are poorly trained: at the same time we have reduced budgets. More and more of the class time in physics and engineering is eaten up in remedial courses. I have had students in pre-med who couldn't calculate the volume of a cube or do fractions. Even on the graduate

level the students are prepared less than I would expect."

The state of American science varies from discipline to discipline. This is how the interviewed scientists assess their fields:

**PHYSICS:** "For a considerable period after World War II, we set the style for the world," said D. Allan Bromley, a nuclear physicist at Yale. "We certainly no longer do."

Leon Lederman, director of the Fermi National Accelerator Laboratory near Chicago, said the Western Europeans have nearly the same population and gross national product as the United States but for some years have spent twice as much as the United States annually on high-energy physics work to discover the most basic elements of matter. In high-energy physics, Americans have lost their lead to the Europeans, he said.

**COMPUTING:** Edward Feigenbaum, a Stanford University professor and pioneer in machine intelligence, recently said that the United States will be "beating the future of the entire information processing industry" if it does not counter Japan's 10-year, \$850-million crash plan to capture the world lead in the coming "fifth generation" of computers.

**CHEMISTRY, BIOLOGY:** "We are far ahead of the Europeans and Japanese in molecular biology," said Philip Sharp, a molecular biologist at MIT and a consultant to Biogen, a biotechnology corporation. "But we are not ahead in applying that research for practical things. The Japanese are very active, even though they do not have a large basic research establishment."

Howard E. Simmons, director of central research and development for E. I. du Pont de Nemours & Co., said that in chemistry and biology the "American universities are as strong as they ever have been." But he added that companies fail to take advantage of it.

He attributed industry's increasing hardening of the arteries to many factors, including the rise and eventual dominance of "marketing people" over researchers, of conservatism over risk-taking. By contrast, the Japanese "see an exciting technology and go create a market," he said.

## A Dream Of Sailing In Space

By John Noble Wilford  
New York Times Service

WHERE ships of a future day may sail there is no air at all. But a "breeze" does blow, a gentle force. Imperceptible though it may seem, nothing to flutter the pennant on a tall mast, this force may someday send ships scudding through interplanetary space.

The force is the light of the sun, sunbeams and nothing more. Photons of sunlight have no mass but they do have momentum. They exert a pervasive pressure that can push against gossamer sails in the vacuum of space. Square sails like huge kites or long crisscrossed sails could be spread out hundreds of feet, miles perhaps, to deflect the light as if it were wind. The force of sunlight beating on the thin plastic sails should be enough to carry ships out to the moon, to asteroids and comets, to the distant planets.

Solar sailing may be only a concept to build a dream on, something for another century. No government deems it worthy of financial support. But a growing number of enthusiasts, many of them engineers, are seeking to put the dream to flight in two or three years. They believe in solar sailing enough to raise money from private sources and invest their own time and talent, setting up a veritable cottage industry to develop models and prototypes of sailing rigs with which to test the dream.

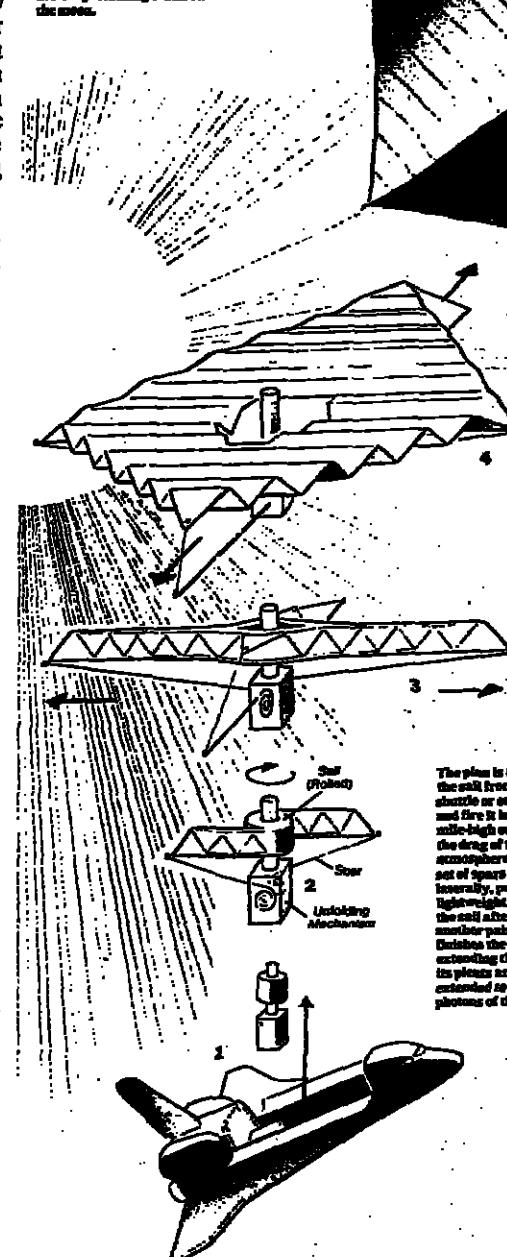
THEIR efforts in the United States have reached the point, they say, where they are already ready to send a small sailing craft out 1,000 miles to check out the concept. If the square sail is untried properly and passes performance tests, the craft might then be directed toward a swing around the moon, a leisurely voyage of more than two years. Work on this venture is being directed by the World Space Foundation, a nonprofit corporation based in Pasadena, California.

Engineers in Czechoslovakia are also doing theoretical studies and building model sails to study the dynamics of such craft. Similar efforts in France have emboldened engineers there to challenge the world to an unmanned race of solar sailing craft to the moon.

The greater the sail surface and proximity to the sun, the greater the reflectivity pressure or energy thrust. At best, the thrust developed by a solar sail is so small as to seem insignificant. But unlike fuel-

## Sailing Through Space, Pushed by the Sun

A stream of photons from the sun exerts a force on a sail of thin plastic. Here, a sail designed by the World Space Foundation (the artist's conception) is intended to use that solar power to travel in interplanetary space.



Uphoff of NASA's Jet Propulsion Laboratory in Pasadena, defines the rationale in support of solar sailing. Low-cost transportation, he notes, is essential for the development of any new frontier. Accordingly, Mr. Uphoff says, ships that sail by the energy from sunlight — the one plentiful "fuel" in interplanetary space — should provide a relatively low-cost means for long-duration voyages of exploration and, ultimately, the hauling of cargoes between extraterrestrial ports of call.

The fundamental principle of solar sailing was predicted by James Clerk Maxwell in the 19th century. According to his theory of electromagnetism, if light was indeed a form of electromagnetic radiation, it should exert a force on anything from which it was reflected. Einstein later theorized that although photons, the elemental bundles of light, had no mass, energy was equivalent to mass and thus an object like a photon could have energy and momentum without having mass.

Seizing on this, two Soviet visionaries of space flight, Konstantin Tsiolkovsky and Friedrich Tsander, published in the 1920s the first known descriptions of how the photon energy of the sun could move a reflecting sail in space. A 1951 article in Astounding Science Fiction Magazine, entitled "Clippers of Space," advanced the idea of a 100-ton space ship, a "light-jammer," powered by a three-mile sail. The first technical discussion of solar sailing in an American scientific journal came in 1958 when Richard L. Garwin, a physicist at IBM's Columbia University, wrote of it as "a practical method of propulsion within the solar system."

A study by the Battelle Memorial Institute in Columbus, Ohio, found solar sailing to be feasible, and this led to further analysis by the Jet Propulsion Laboratory in the middle 1970s. Engineers there investigated possible missions to rendezvous with Halley's comet when it passes nearby in 1985-86.

No one bought the idea of a solar sail for a Halley's comet flight, and eventually the United States dropped the whole comet excursion because of the budgetary squeeze.

Dr. Friedman, who had headed the study at the Jet Propulsion Laboratory, and Robert L. Staehle, an engineer on the team, never abandoned the idea. Dr. Friedman left the laboratory to direct the Planetary Society. Mr. Staehle, who still works at the laboratory, and some friends established the World Space Foundation to give private citizens a chance to "support and participate in space exploration."

Mr. Staehle said that the foundation has held preliminary talks with NASA and the European Space Agency to arrange passage for the test sail on a space shuttle flight or Europe's Ariane rocket. The sailing craft would have to be boosted up at least 1,000 miles to get away from the drag of atmospheric gases from the earth.

At that altitude, the light stainless-steel spars and stays, rolled up inside the spacecraft like a carpenter's rule, would be paid out slowly, unfurling the accordion-folded sail until it was stretched full and wrinkle-free.

By now, the foundation has spent more than \$100,000 on solar sailing, part of it from a grant by the Charles A. Lindbergh Fund. Mr. Staehle estimates that the demonstration flight would cost from \$2 million to \$12 million, depending on how much of the materials and launching services are donated.

If the test goes well, Mr. Staehle said, the foundation hopes to get the government interested in grander ventures.

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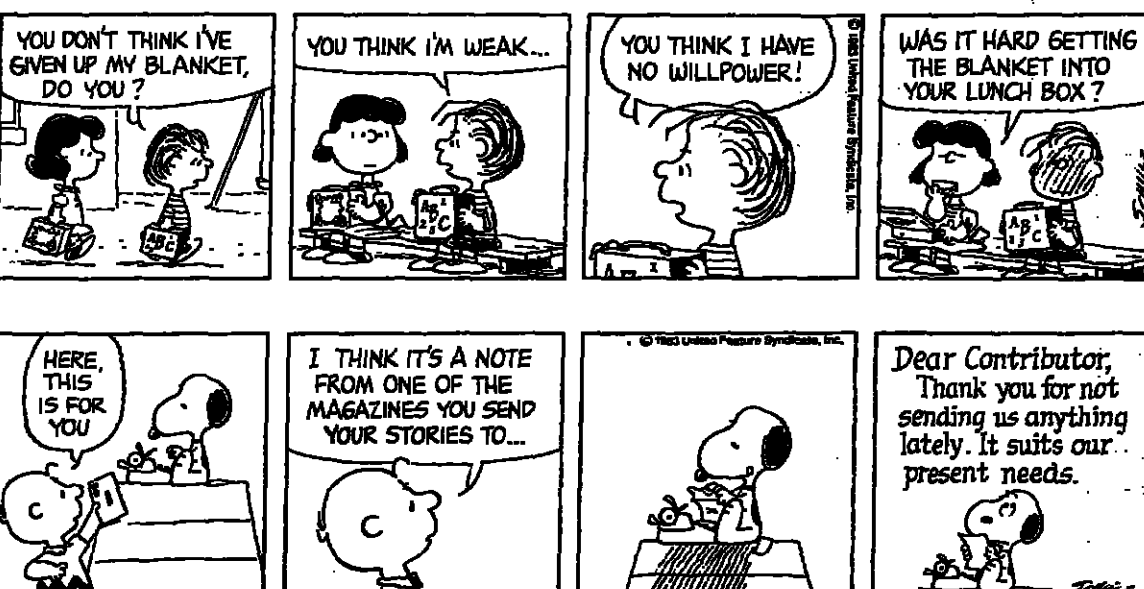
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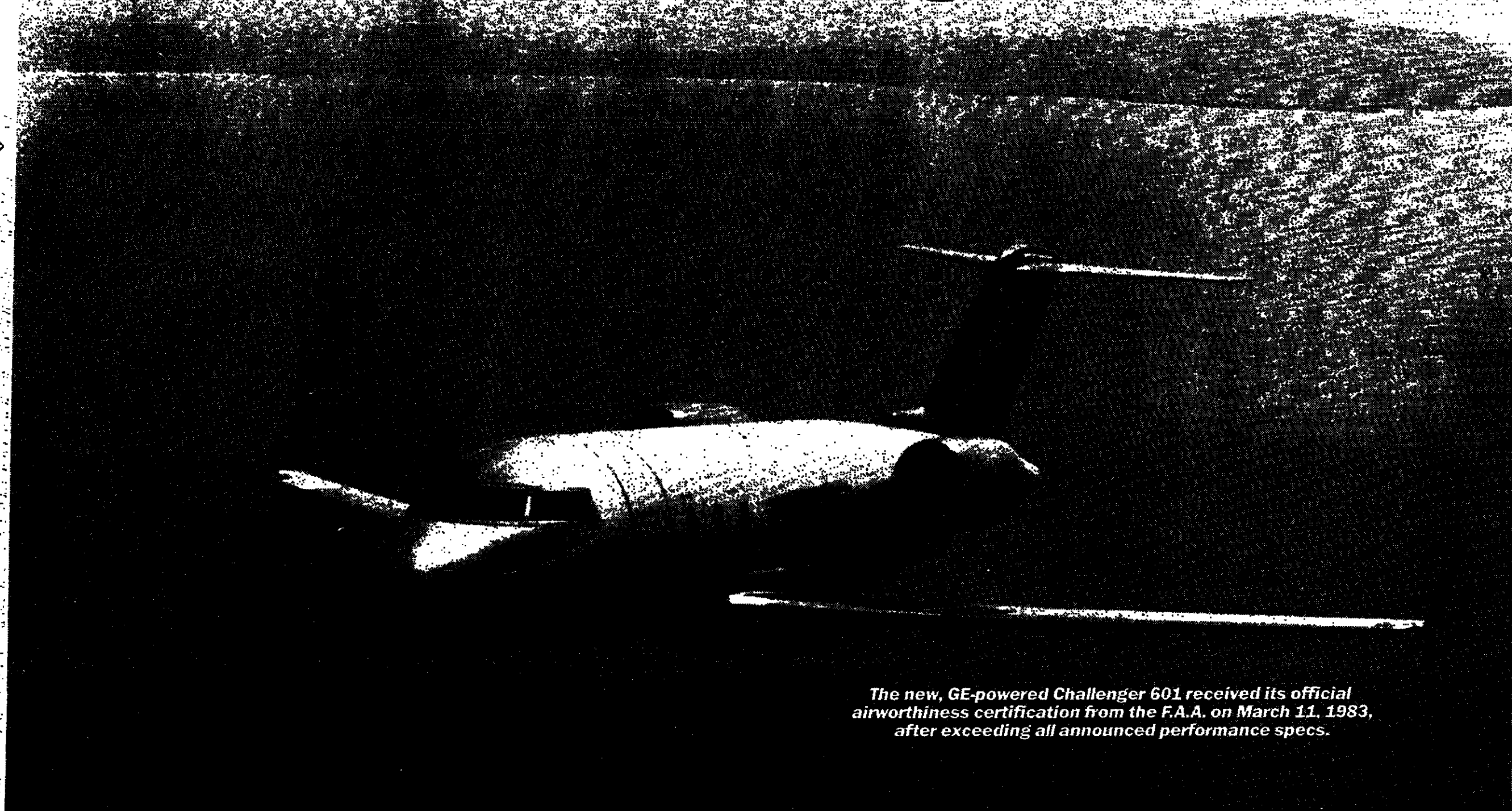
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Page 9S

## AEROSPACE

A SPECIAL REPORT — PART I

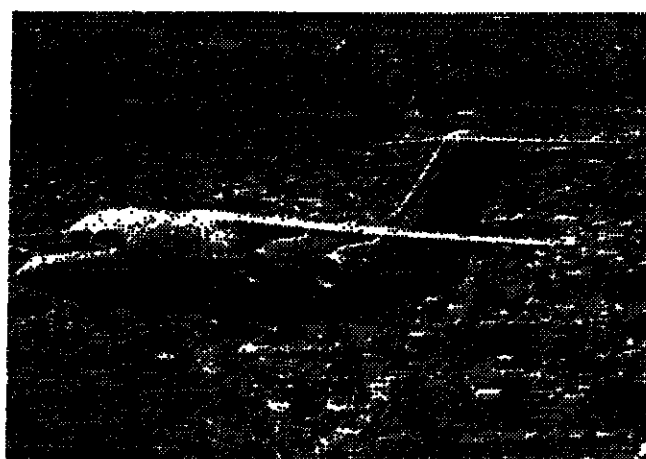
PART II APPEARS TOMORROW



**PASSENGER TRANSPORT** — At left, Airbus Industrie's A-310 is the latest in the European family of airliners. Swissair and Lufthansa have just brought them into



service. McDonnell Douglas' DC-8, center, re-engined with SNECMA/General Electric CFM-56 engines, uses up to 20 percent less fuel than its predecessor, and is



quieter on takeoff. At right, British Aerospace's new 146 four-jet airliner can operate on short airfields in remote areas of the world. The plane carries up to 100 passengers.

### Recession Restrains Major Jet Airliner Builders

By Douglas B. Feaver

WASHINGTON — These are not good times for Boeing and McDonnell Douglas, the two surviving U.S. builders in the battle to sell jet airliners.

The combination of low revenues brought on by fierce fare wars in the deregulated U.S. airline business and generally poor economic conditions worldwide have found marketing specialists at both companies hoping for better

days and continuing to worry about international competition from Airbus Industrie.

Meanwhile, their engineering departments are sitting on plans for new models and spending most of their time tinkering on either longer or shorter versions of existing airframes.

Early signs of improvement in U.S. airline traffic since January have not been enough to dispel the gloom, officials for both companies said. "Yeah, we're encouraged," said Don Hansen of the Douglas Aircraft Co., a subsidiary of

McDonnell Douglas Corp. "But don't say the turnaround is here. The truth is that until the airlines get good results for a couple of quarters in a row, they're not going to feel comfortable. And until they feel comfortable, we won't."

Commercial aircraft sales at Douglas declined \$1.02 billion in 1982, or 42 percent. Douglas resorted to some creative leasing arrangements to send new DC-9-Super 80 jets to Alitalia.

(Continued on Page 16S)

### Paris Air Show: Note Of Hope for Upturn

By Arthur Reed

LONDON — The Paris Air Show 1983 at Le Bourget finds the world aerospace manufacturing industry in a slightly happier state than at the last *salon* two years ago when the recession was in full swing. The industry also is hopeful that depressed sales for both military and civil aeronautical hardware will show signs of recovery by the end of the year.

Despite these aspirations, the turnout for the show by big companies, and particularly those from the United States, will be depleted this time as a result of decisions made months ago when the business downturn was at its worst. Manufacturers such as Lockheed and McDonnell Douglas decided that the cost of mounting a major effort at exhibitions like Paris, said to be in the region of \$1 million for large firms, was no longer justified.

Instead of what is known in the business as the "buckshot" approach, where promotional budget dollars are spread indiscriminately over thousands of attendees, many of them casual visitors with no intention of buying, the companies will use the "rifle-shot" approach, concentrating their money on selected potential customers and taking them back to home base for demonstrations of aircraft and equipment.

Few big and important new aircraft will be at Le Bourget.

(Continued on Following Page)

### Military Sales: A Sensitive, Competitive Market

By Richard Turtle

WASHINGTON — The sale this month of French aircraft and missiles to two Gulf countries could not have come at a better time for France and the manufacturers. Coming on the eve of the Paris Air Show, they give the government of Francois Mitterrand invaluable ammunition in the continuing battle with other countries — mainly the United States and the Soviet Union — for military markets in the Middle East and elsewhere.

The biggest of the two French sales, which are thought to be worth \$1.5 billion, involved two squadrons of Mirage 2000 fighters to Abu Dhabi. The other, for a smaller but still significant amount, involved the sale to Kuwait of six Super Puma helicopters fitted with anti-ship Exocet missiles — the kind used so successfully by Argentina against the British fleet during the Falklands war.

But, although France can be expected to show to advantage its aircraft and other weap-

ons at the Paris show, it is not likely that such demonstrations alone will woo other customers.

Similarly, Northrop Corp. of the United States probably cannot expect flight demonstrations at Le Bourget Airport of its new F-20 Tigerhawk fighter — which competed with the Mirage 2000 and other aircraft for the Abu Dhabi contract — to spark a potential customer to action.

Still, with possibly a dozen future F-20 (Continued on Following Page)

### Europe's Program In Space Depends On Ariane Launch

By Axel Krause

PARIS — The sixth launching of Ariane, Western Europe's newest spacecraft, is scheduled to take place in mid-June at France's space center near Kourou, French Guiana. And it is very much a cliff-hanger.

A successful launch — it would be Ariane's fourth — will put Europe's ambitious space program on a greatly strengthened footing with the United States, particularly in meeting increasingly stiff competition for a growing, multibillion-dollar, worldwide market for launching facilities and services.

But a failure — Ariane's third — would deal a "painful, critical blow" to the entire European space effort, according to a senior French aerospace executive. It would give Ariane a 50-50 performance record.

An immediate consequence probably would be the loss of some customers now booked to launch satellites on Ariane. Aerospace executives said that some customers probably would switch to competing — and expanding — services offered by the U.S. National Aeronautics and Space Administration. In the event of another failure and because of the additional delay involved, switching by customers could be made without penalties under existing contracts.

Equally disquieting to European space officials was the recent announcement by the Reagan administration that the U.S. government will allow private companies to acquire U.S.-built Delta, Atlas and Titan rockets and launch them from existing pads. The White House described the program as "a domestic backup for the shuttle at essentially no [taxpayer] cost." The new policy applies not only to existing rockets, but also to other unmanned craft that might be developed for commercial applications, administration sources said.

"In light of the competition for launch services, our major concern right now is how closely we will be able to keep to our launching schedule; we presently offer the same services as NASA in this area," said Claude Daoud, director of marketing for ArianeSpace, a consortium of leading European industrial companies and banks that is responsible for the European launcher's production, financing and marketing.

"We definitely are aware of how NASA is aggressively marketing its services, including the shuttle, and we are making our preparations to compete with what we think is a first-class product," he said recently at company headquarters at Evry, near Paris.

Ariane, a French-dominated venture developed at a total cost of roughly \$900 million, is one of several major projects sponsored and organized by the European Space Agency. Almost as significant and costly is Spacelab, a German-dominated, manned and reusable space laboratory, which was designed to be carried into space by a NASA shuttle. Its first flight aboard Columbia's ninth mission from the Kennedy Space Center in Florida is scheduled for Sept. 30.

Representing the first time a non-American has flown on the NASA shuttle, Ulf Merbold, a West German physicist and one of three trained European astronauts, will be among the crew conducting scientific experiments during the first in a series of seven-day missions. The other "Euro-

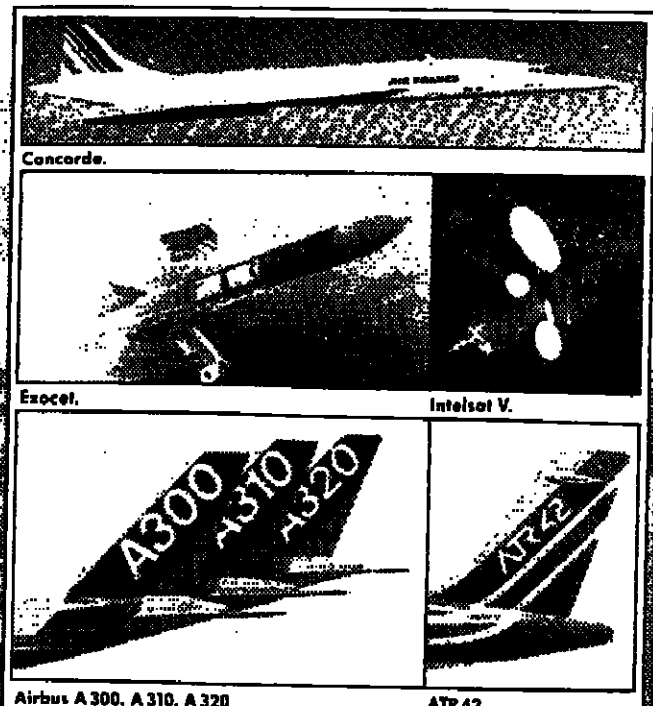
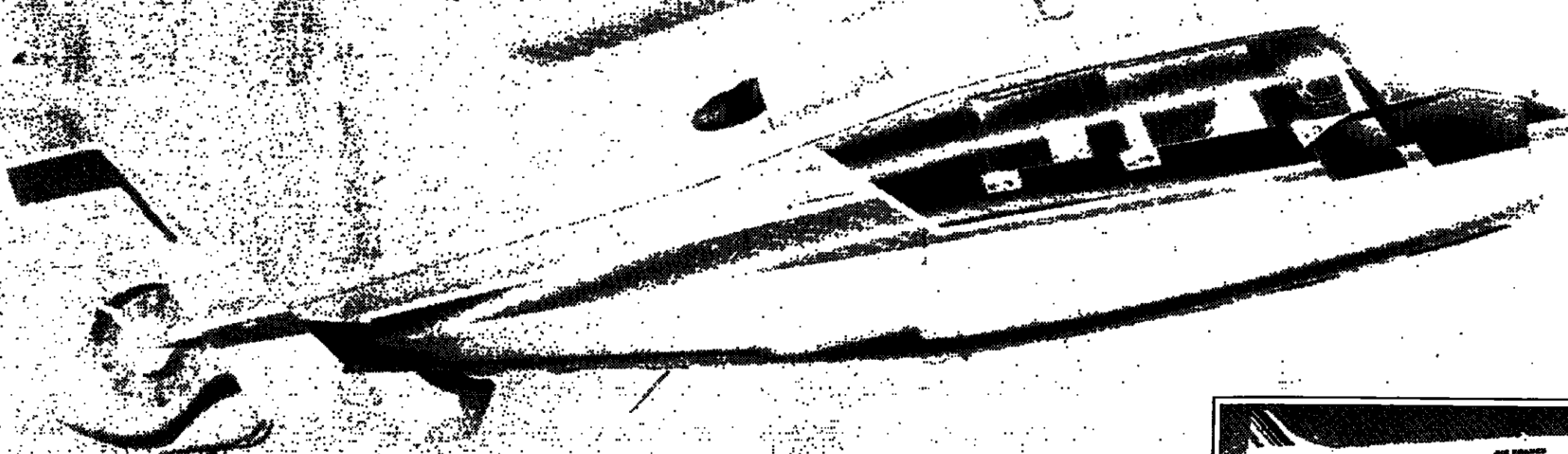
(Continued on Page 14S)



The French space center at Kourou.

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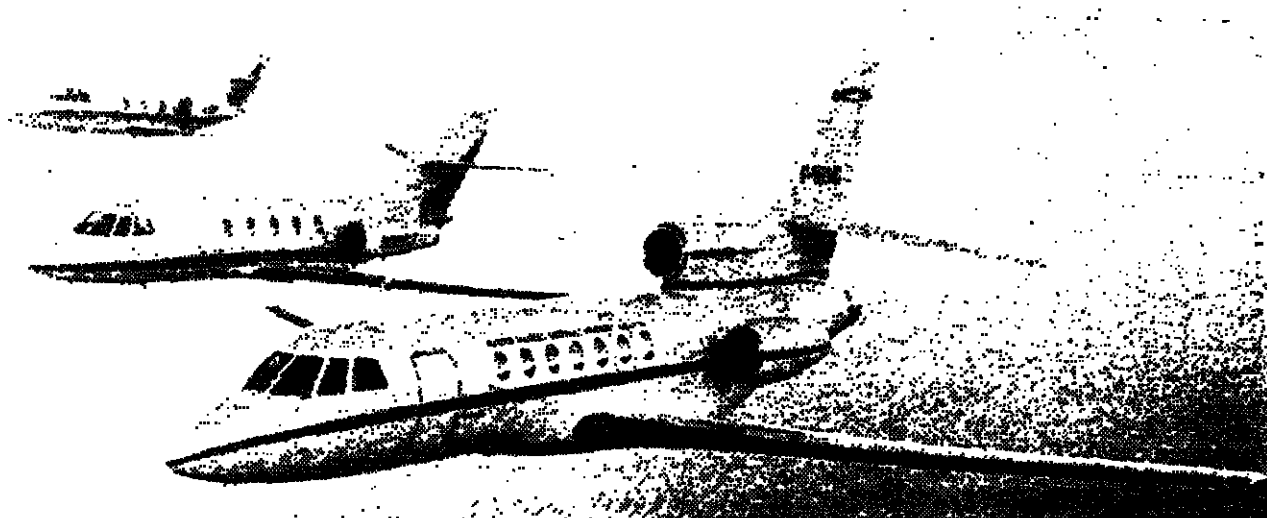
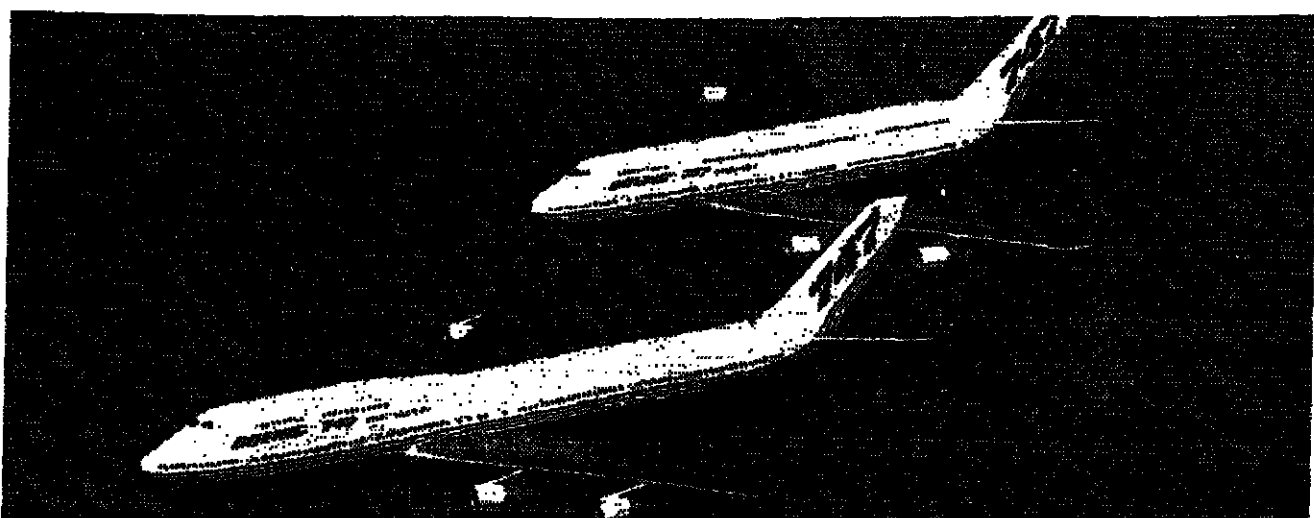
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## AEROSPACE



BIG AND SMALL — Left, models of new versions of the Boeing 747: top, the full double-decker; bottom, the stretched upper deck model. Right, the small Falcons 10, 20 and 50 executive jets from Avions Marcel Dassault.

## Paris Air Show Opening With a Note of Hope for an Upturn in Sales

(Continued from Preceding Page) Boeing showed its two latest airliners, the 757 and the 767, at Farnborough last year, but Airbus Industrie, the European manufacturing consortium that is raising a strong challenge with its products to the U.S. aerospace industry, is not losing the opportunity to show off its most recent wide-body plane, the 200-seater A-310, on its home ground.

Everyone in Paris will be waiting to see if the main partners in Airbus, France, Britain and West Germany, will use the salon as a platform to announce a go-ahead

for the projected 150-seat airliner, the A-320. The aircraft was cited as a project at the 34th show, and Air France said that it would order 25, with a further 25 on option. But then, the project went into limbo as the recession hit the airlines and there was no agreement between the partners on work-share and financing.

A further reason for the delay of progress was the lack of a suitable engine to power the A-320, but this problem has been solved by offers from CFM International (SNECMA of France and General Electric of the United States) of the

CFM56-4, and by the new grouping of Rolls-Royce, Pratt and Whitney, and West German, Italian and Japanese companies of an engine in the 20,000-pound thrust class.

At this point, the feeling is that Airbus will not announce at the show a positive start on the A-320 because it is gauging reaction to the project from the airlines and because it is awaiting details of the new engine from the Rolls-Royce consortium.

While the big airlines have been in the doldrums recently, the smaller commuter companies have been riding out the recession, and

the manufacturers of the 30/50-seater airplanes will be looking for business at the show.

One new type, which made its maiden flight since the last salon and which will be on display, is the SF-340, developed jointly by the U.S. company Fairchild and the Swedish company SAAB. Short Brothers, the Northern Ireland aerospace company, will have its 330 and 360 commuter airliners present, but a number of other makers will rely on models and mock-ups of aircraft due to fly for the first time soon.

These include projects from Brazil and Canada and joint ventures from Spain/Indonesia and France/Italy.

British Aerospace is bringing its Jetstream 31 commuter and its 146 four-jet airliner. British Aerospace's 146 is in a bigger class with 70 to 100 seats — depending on which version is ordered — and is of interest to airlines operating commuter services to small airfield strips, as it has a short takeoff and landing performance.

The organizers of the show, the Groupement des Industries Françaises Aéronautiques et Spaciales, has allowed for 900 exhibitors, bringing 200 aircraft, from two-seaters through Mach 2 fighters

to wide-bodied airliners, representing 25 countries.

The United States and the Soviet Union will, as usual, have their own pavilions to display examples of their aerospace technology, including space hardware. What the Russians will be bringing in the way of aircraft will not be known until they arrive, but the word out is that there will be little seen before. The Soviet display probably will include the Il-86 wide-bodied Airbus, now in service on the routes inside the Soviet Union.

In the military sector, interest centers at this air show more on aircraft systems than on anything

new in the aircraft and on a new generation of sophisticated air-to-air missiles, such as the Hughes AMRAAM.

Service delegates from all over the world will be searching the show for the latest in cockpit avionics, including instruments on cathode-ray tubes, head-up displays, where information contained on light-deck dials is thrown on to the windshield, airborne early-warning, and thermal-imaging equipment able to see and select targets in the dark.

But while most of the displays at Paris will be looking to the future,

one, from Britain, will revive past aviation memories. This is the Skyship 500 airship, due to arrive from its base at Cardington, north of London, and to take part in the flying display each day. Although old in concept, Skyship 500 is modern in design and construction. It uses non-inflammable helium gas for lift, is powered by two swiveling Porsche engines, and has a large amount of composite material, rather than traditional aerospace metals, in its construction.

The prototype carries ten passengers, but its developers, Airship Industries, plan versions to carry up to 200.

## Military Aviation Sales: Sensitive, Competitive Market Where War Is the Teacher

(Continued from Preceding Page) buyers looking on, Northrop can hardly pass up the chance to show its new plane — especially since, at this writing, it does not have a first customer.

At the same time, U.S. companies such as Northrop do not take the decision to fly at Le Bourget lightly. The reason is money. While companies of many other countries do not have to pay the bill for participating in events like the Paris Air Show — their governments pay, the payments come directly out of the pockets of U.S. companies. And the amounts can be significant, running to several million dollars. For this reason, some big American companies — Lockheed, McDonnell Douglas, Pratt & Whitney and Vought — have bailed out of this year's Paris Air Show.

To offset what would otherwise be a relatively lackluster U.S. presence at Le Bourget, the space shuttle Enterprise will be there, atop its Boeing 747 carrier aircraft. Although the Enterprise has never flown in space (it was used in 1977 for approach and landing tests at Edwards Air Force Base in California to confirm handling characteristics in the final part of a typical shuttle mission), it will probably be the hit of the show.

There were reports early this month that the Soviet Union would try for a hit of its own at the Paris Air Show with the first appearance in the West of a new, large military transport. But, apparently in reaction to French charges of spying, the Soviet Union later announced that they would not participate in the static aircraft display. They

will, however, show some space equipment and perhaps some aircraft engines.

One Soviet transport that was shown in the early 1970s for the first time at Le Bourget, the Il-yushin 76, was used last month by Libya in an attempt to transport arms to Nicaragua. The attempt was halted in Brazil.

Attack aircraft of the future, including a mock-up of Britain's Agile Combat Aircraft, which also will have other missions, will be on display in Paris.

The Falklands conflict and the Lebanon battle of a year ago continue to shape the thinking of military planners. In the United States, many of them stress that the wars confirm the appropriateness of American philosophy and training.

One U.S. Navy admiral reflected the thinking of his colleagues when he said the Falklands war proved the necessity of large aircraft carriers. He said the British fleet, with relatively small carriers, had no airborne early warning, no long range interceptors, no night attack capability, and no capability to maintain air superiority over the Falklands.

Any U.S. carrier battle group, he said, would have been able to do all these things.

The admiral stressed the importance of keeping such assets away from the budget cutters, warning that the U.S. Navy could otherwise wind up a shadow of its current self.

He hoped the budget cutters will get the message of what he called a "Beirut evacuation scenario"

played out in the Caribbean earlier this year. There, he said, carriers and their air groups successfully fended off waves of simulated attackers flying southwest out of Puerto Rico — or, as far as the exercise was concerned, the Caucasus region of the Soviet Union. A Harpoon missile exercise followed in which seven of the missiles scored direct hits on a target ship. In another part of this "Harpoon Ex," a Harpoon was downed by a Phoenix missile fired by an F-14 fighter.

The Lebanon battle of June 1982, in which Israel destroyed scores of Soviet-built Syrian planes and surface-to-air missiles, probably will be a theme at Israel's Le Bourget pavilion this year. A measure of Israel's success in that battle has been attributed to small unmanned aircraft — so-called remotely piloted vehicles — that were used to gather information on Syrian defenses for months before the battle began, and to electronically fool those defenses into thinking they were looking at manned aircraft when the fighting got underway.

When Syrian mobile missiles were fired at the miniplanes, the positions of the missiles were revealed, and the missiles were destroyed by Israeli forces, including missiles launched from inside Israel.

At the same time, the Israelis used electronic techniques to confuse the communications between Syrian commanders on the ground and their fighter aircraft. In addition, Israel, operating U.S.-built Hawkeye radar planes safely over its own territory, tracked the Syrian fighters and vectored Israeli planes in for the kill.

The result was disaster, not only for Syria but also for the Soviet Union, which supplied its air defenses. One possible implication is that in a European war, Western electronics technology would overwhelm Soviet air defenses — but few people are betting seriously on such an outcome. It seems more likely that the Soviet Union, while rebuilding Syrian defenses, will step up its already massive attempt

to acquire Western electronics technology.

Although it is not known by Western observers why three Soviet cosmonauts in the Soyuz T-3 spacecraft had to abort their attempt last month to dock with the Salyut 7/Cosmos 1443 space station, it is possible that the difficulty lay in some failure of electronics. Two earlier Soyuz missions, one with a Frenchman aboard, had computer problems during the space station docking phase.

It is not prudent, however, to assume a general Soviet backwardness in electronics. U.S. Navy Secretary John Lehman, for instance, noted a few weeks ago that the Russians have 600 anti-ship cruise missiles that are capable of being simultaneously fired from a variety of platforms around the world at allied vessels — no small feat, and one that requires sophisticated electronic command and control techniques.

And, to defend their homeland against low-flying bombers and

cruise missiles, the Russians are developing fighter aircraft with lock-down radars and new missiles, warning-and-control planes to vector the fighters, and a new generation of surface-to-air missiles.

The targets of such systems, in addition to the current generation of U.S. bombers and cruise missiles, are the B-1B and Stealth, or radar-evading, bombers and the stealthy cruise missiles they will carry. The United States appears to be committed to development of the highly classified Stealth bomber. One source indicated the U.S. Air Force plans to spend increasingly greater amounts on the project during the next half dozen years, reaching well beyond \$2 billion in fiscal 1985 alone. Production money, in similarly great amounts, will be spent in following years. Pentagon officials indicated that one feature of the stealthy cruise missiles will be an extreme range to allow them to strike targets deep within the Soviet Union without requiring penetration of the bomber force.

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## AEROSPACE

# History of a Sale That Continues to Mark Arms Procurement Methods

By Joseph Fitchett

PARIS — It was called the arms sale of the century.

On June 7, 1975, Belgium, Denmark, the Netherlands and Norway announced the purchase of 348 General Dynamics F-16 fighters at an estimated cost of \$4 billion. The deal, in which a U.S.-made air combat fighter was purchased simultaneously by the U.S. Air Force and four North Atlantic Treaty Organization allies, involved trans-Atlantic politicking at the highest levels and stiff commercial competition between U.S. aerospace companies and rivals from Sweden and France. A decade later, the episode still marks the alliance and the industry.

New disclosures about the epic deal show that the selling of the U.S. aircraft involved far-reaching political considerations largely unknown at the time. The book, "Arms Deal" by Ingemar Dorfer, a Swedish defense expert, claims that NATO air forces were the big winners in a complex set of negotiations that profoundly modified weapons procurement thinking in the West.

The book asserts that: • The F-16 sale, despite the controversy surrounding it at the time and in its aftermath, resulted in prompt delivery of a new generation of lightweight air combat fighters, providing a significant advance in NATO standardization and a high degree of European industrial participation — with only limited, acceptable cost overruns of 10 percent.

• France, in its all-out effort to sell the Dassault-built Mirage F1 instead of the F-16, offered to coordinate its air force with its allies — an unprecedented French step in the direction of a return to NATO. Perhaps even more significantly, the French defense minister, the author says, ushered in a period of higher French collaboration with allies on weapons development.

• European politicians, throughout the yearlong negotiations, generally put national security — the sale was a symbolic commercial and military gesture toward the United States — above local political and commercial considerations.

Even in the early 1970s, which was generally considered to be a period when Western politicians were sanguine about defense problems, the European leaders let themselves accept the recommendations of their defense advisers, who dismissed the F-16's glaring weakness — the lack of all-weather capability in cloudy European skies. European military planners gambled, correctly, that this shortcoming would be overcome subsequently by the supply of U.S. radar-guided missiles — once the U.S. Air Force was sure that the improvement to the F-16 would not jeopardize the more expensive, already built F-15 all-weather fighter.

When the dust settled after the sale, there were many winners. Not yet flown in combat in Europe, the F-16 has proved elsewhere to be an outstanding weapon, a pilot's plane. Israelis flew the F-16 last summer to devastating effect against Syria's Soviet MiGs. (Israel's F-16s had been built for Iran, but after the fall of the shah, the markings were changed and the planes delivered to Israel.) The plane also has been sold to Egypt, South Korea, Pakistan and Venezuela.

Its main U.S. rival, the Northrup-built F-17, subsequently was developed into the F-18 for the U.S. Navy, then sold to Canada, Australia and Spain in a land-based model, the F-18L. The Mirage F1 has sold well in France's Middle East markets, notably Abu Dhabi, Kuwait and Iraq. Aspects of F-16 technology were incorporated into the latest Dassault model, the Mirage 2000, which is the French air force's new main fighter.

The background to this extraordinary competition, which set the 1980s technology, was the state of NATO air forces in the 1970s, both in the United States and in Western Europe.

A small, influential U.S. defense clique, known as "the fighter mafia," wanted to develop a lightweight air-combat plane designed to beat the maneuverable Soviet-built MiGs in dogfights. In Vietnam, the heavier U.S. planes had proved vulnerable because of their lack of maneuverability. As a bureaucratic ploy, the "mafia" obtained funds for research on a plane generally viewed as a "technology demonstrator," while the heavy F-15 and F-14 — with armor, arsenals and avionics of unprecedented sophistication — went into production.

Meanwhile in Europe, NATO air forces needed a replacement for the Starfighter — a plane that European pilots disliked because it was never a mainstay of the U.S. Air Force, so it never enjoyed maximum U.S. military backup. The Europeans needed an interceptor — and they wanted to buy U.S. solidarity. Eager to obtain the political and commercial benefits of buying as a bloc, Belgium, Denmark, the Netherlands and Norway formed a buyers' consortium. This development suddenly gave the U.S. lightweight fighter added political attraction in Washington.

As the outstanding performance of the prototype F-16 aroused new military interest, the competition intensified.

There was never any chance that the U.S. Air Force would buy a foreign plane as it never has, so the competition was between General Dynamics, a Texas-based firm with

strong congressional influence behind it, and Northrup, a California aircraft manufacturer, whose experience and outlook was strongly international. In particular, Northrup, which had made the successful F-5 Freedom Fighter, was trying to persuade Europeans and Iran to provide funds for the development of the Cobra, a state-of-the-art fighter that would be completely co-produced by all the participating nations. The new lightweight fighter, the F-16, threatened the Cobra concept — and eventually killed it. Northrup entered a modified Cobra in the competition as the F-17, which exists today as the F-18.

As it became increasingly clear that the F-16 was a better light combat plane, the Nixon administration threw its weight behind a new idea — a combat plane to enter the U.S. inventory simultaneously with its delivery to NATO air forces.

In late February 1974, Secretary of State Henry Kissinger sent a letter to the defense ministers of Belgium, Denmark, the Netherlands and Norway. The message pointed out, Mr. Dorfer says, "the superiority of performance and the technological advance of the U.S. planes; the effectiveness of U.S. logistics support; that NATO expenditure (in the U.S.) would demonstrate cooperation and burden-sharing; and that nuclear certification of a U.S. aircraft could be obtained quickly."

(Both the Belgian and Dutch air forces have nuclear missions, using U.S.-controlled bombs, in the NATO context.) As Mr. Dorfer points out, "Since it was one of the few times a U.S. secretary of state personally had intervened in an arms deal with these small nations, the impact of the message was to be considerable. This proved especially true with Norway, whose professional soldiers and politicians sensed a new tension emerging in East-West relations as early as 1974, after the previous year's Middle East war."

Meanwhile, U.S. Defense Secretary James Schlesinger wrote to four European countries saying that a collective purchase of a U.S.-made plane would modernize the tactical air forces of all five countries — and create a U.S.-backed export plane in whose profits all four European allies could benefit. The deal, as ultimately concluded, gave the European participants a 40 percent share of work on export orders.

In other words, although it would be cheaper for European countries to buy ready-made U.S. fighters, at roughly \$2 million a plane, the United States encouraged partial co-production arrangements that would provide employment and technological transfer in European industry and also give Europeans a share of the overall market.

Similar offers, of course, were being pressed by France's Marcel Dassault-Breguet Aviation and Sweden's Saab. Supported by the Scania, Volvo, Ericsson team of industries that had built 2,000 combat aircraft since the war, offered the Viggen, an impressive performer, in hopes that it could break out of the Scandinavian market and into the European one. But, as Mr. Dorfer points out, the "important symbols of power such as fighter jets are sold as much on the political and high financial grounds as on their technical merits."

Besides being out of NATO, Sweden has a policy — then as now — of never exporting weapons to nations liable actually to use them in wartime. Although Sweden had one of the largest combat air forces in Europe, it was therefore not a reliable supplier in most governments' eyes. And although Saab's dynamic president, Curt Millekovic, tried hard to sell Viggen, he got only lukewarm initial support from Swedish bureaucrats, who feared a public backlash against any violation of Swedish neutrality. Eventually, Saab obtained a ground-breaking Swedish commitment in March 1975 to supply spare parts even in wartime and to allow even belligerents to use Swedish facilities for their Viggens, if necessary. But this pledge was too little and too late, especially against the determined hostility of the Nixon administration, which was so outraged by Swedish attitudes over Vietnam that there was no U.S. ambassador in Stockholm.

France provided tougher competition, even with an inferior plane. Within the Dassault company, few leaders believed the four-nation consortium would hold together, so French designers concentrated on offering the Mirage F1 to key Belgian politicians, confidently expecting that the pro-French orientation in Brussels would deliver a Belgian order, followed by a French order.

In fact, France had missed a power shift in Belgian politics in favor of the Flemings, many of whom resent what they see as a disproportionate past influence of the French-speaking Walloons. "In 1968, the Walloons, represented by Prime Minister Paul Vanden Boeynants, managed to choose the Mirage F1 against the recommendation of the Belgian air force. In 1975, Vanden Boeynants, now defense minister, could not prevent the acquisition of the American F-16 and the defeat of the Mirage F1," Mr. Dorfer writes.

The Mirage F1 actually was a generation older than the F-16, and Washington refused French requests to acquire a better, U.S.-built jet engine to improve it. In the end, however, France lost out, Mr. Dorfer says because

French officials and arms salesmen had a negotiating style better suited to developing nations than to the European market. Mr. Dorfer reports: "Even France's friends, such as the Belgians, deplored the French negotiating style... a mixture of overwhelming lavishness and condescending arrogance, with an emphasis on hospitality that avoided the tough engineering issues with an attitude: You leave this to us, we know what is best for your air force because we design the famous Mirages."

Threats also backfired. In Copenhagen, the French prime minister at the time, Jacques Chirac, told Denmark, which had just joined the Common Market, that Dames could expect trouble from France unless the country bought the Mirage. "In the Dutch and the Belgian case, they threatened to exclude the nations from traffic to the new De Gaulle airport in Paris, even to pollute the Meuse River (with unchecked effluent)," recounts Mr. Dorfer. His version remains unchallenged in its essentials and realized by U.S. officials familiar with the events he narrates.

Despite these unsuccessful commercial tactics, France did press an argument that nearly sold the Mirage F1 — namely, that a big European purchase of a French plane would preserve a European aerospace industry and also be a step toward European solidarity, even in defense.

Since 1966, France has been outside NATO — although its air defenses still depend on information from the radar line known as NADGE. For wartime contingencies, there are secret plans for military cooperation known as the Ailleri-Lemnitz and Fourquet-Goodpastor agreements concluded by successive NATO military commanders and their French counterparts.

In late 1974, France, under newly elected President Valéry Giscard d'Estaing, seemed ready to resume a quiet improvement of its links with NATO — a process begun under Georges Pompidou but interrupted by his mortal illness three years earlier.

As explained in a secret Belgian analytical report, it would be counterproductive to insist on France's returning to NATO or even joining the so-called Eurogroup — a European coordinating effort inside NATO — because of the political backlash to be expected in France from diehard Gaullists. However, the report cited by Mr. Dorfer says: "The purchase of French aircraft could furnish the opportunity to specify improved collaboration with the French air force and harmonize doctrine (among the European air forces) for the defense of Western Europe."

This political-military deal apparently appealed to Mr. Giscard d'Estaing, but his room for maneuvering was curtailed by the so-called "Stehlin affair." In September 1974, General Paul Stehlin, a retired French air force officer who had opposed the Gaullist withdrawal from NATO, wrote a letter — which quickly became public — criticizing the Mirage program and calling for cooperation with the U.S. aircraft industry.

The fighter competition, General Stehlin wrote, is only an example of a growing trend for French and European military choices to be governed by the desire to protect industries and jobs, not by concern to buy the best defense possible with the available funds.

The Stehlin letter created a diplomatic uproar, fueled by disclosures that General Stehlin was a paid consultant of Northrup. Subsequently, many of General Stehlin's points have been adopted by Europeans, and especially French, arm-makers, who have been more eager to enter bilateral arms development plans. But the short-run effect was to make Mr. Giscard d'Estaing more wary in public.

As a result, the French diplomatic commitment to joint air war planning with its allies arrived too weak and too late, in March 1975. Impatient, the Dutch — in many respects the key nation — already had planned a trip to Washington in which the U.S. sale was clinched. "The European dream would have to wait several more years, maybe forever," Mr. Dorfer writes.

The Netherlands was a critical market for several reasons. Since West Germany was absent from the deal — it had decided to replace its starfighter temporarily with F-4 Phantoms while waiting for the Tornado, an advanced European fighter that has proved a financial disaster — the Netherlands was the pivot of the European market in terms of business contacts.

The Netherlands was crucial for France. Three times in a generation, the Dutch air force had chosen U.S. fighters over French competition because the Netherlands feared French domination on the Continent. As defense became more costly, however, the Dutch were determined to buy the same plane as Belgium — and therefore Holland, would buy the Mirage if France made concessions from its Gaullist doctrine of independence and brought its price close to the U.S. figure.

"The Dutch were willing to pay a price for the European unity symbolized by a French fighter — 10 percent of the acquisition sum or \$100 million per nation," according to Mr. Dorfer.

But by the time France was ready to move in this direction, the F-16 had developed irresistible momentum. General Dynamics, long a close supplier of the U.S. Air Force, initially lacked Northrup's sophistication in dealing with Eu-

rope. But this know-how came from United Technologies, the company making the Pratt & Whitney engines in the F-16. With a "Texas mafia" of key congressmen and administration officials supporting the General Dynamics product, it won the Air Force order — and then the Pentagon started to push its selling effort in Europe.

In this campaign, the heart of the selling of the F-16, the key was Norway. NATO's northern outpost, Norway, had no doubts about the growing Soviet menace or the need for strong U.S. guarantees. From the outset, Norway, whose procurement strategy was masterminded by General Sverre Hamre — was determined to buy the best U.S. plane, which was quickly shown to be the F-16. Norway spearheaded the formation of the European consortium and then, according to Mr. Dorfer, decided that Norway should make a quick decision in order to pressure the other three governments to fall into line.

The strategy worked, albeit with all the detours outlined in Mr. Dorfer's account of the yearlong bargaining.

Probably the biggest problem facing the U.S.-Norwegian effort was the nature of the F-16 itself. A cheap, lightweight fighter, it did

not appear to be equipped to deal with the poor visibility in European skies or the threat of the Backfire bomber being deployed against NATO shipping by the Soviet Union. While the Yom Kippur war showed that a big number of relatively cheap, highly maneuverable fighters were needed for the high-

attrition dog fights in the Middle East, heavier, all-weather fighters, or at least radar-guided missiles, were needed in Europe. Yet the U.S. Air Force was reluctant to envisage this capability for the F-16 in the early 1970s because the Pentagon feared that the F-16 could become competition to

the heavier, more expensive F-15, which was just starting its production runs. European officers understood this bureaucratic maneuver and disguised the F-16's potential disability from the politicians. In some countries, the problem was talked away by saying that the F-

16 would be mixed with all-weather fighters. As quietly promised, the United States, once the F-15 was safe, did eventually provide the all-weather missiles. In the end, Mr. Dorfer said, "the air forces were the big winners in this story."



The Northrop F-20 Tigershark, which will make its international debut at the Paris Air Show.

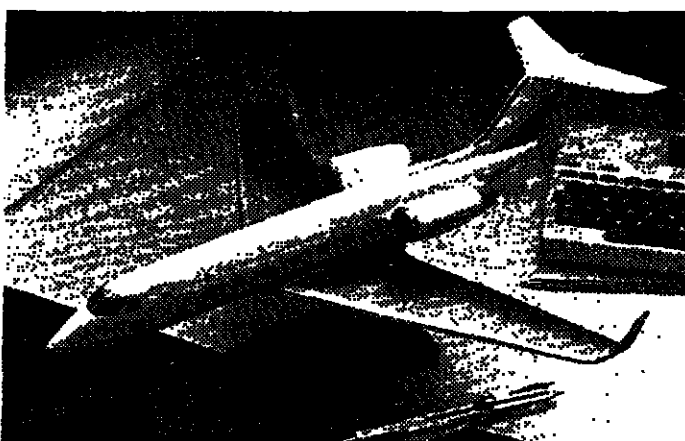
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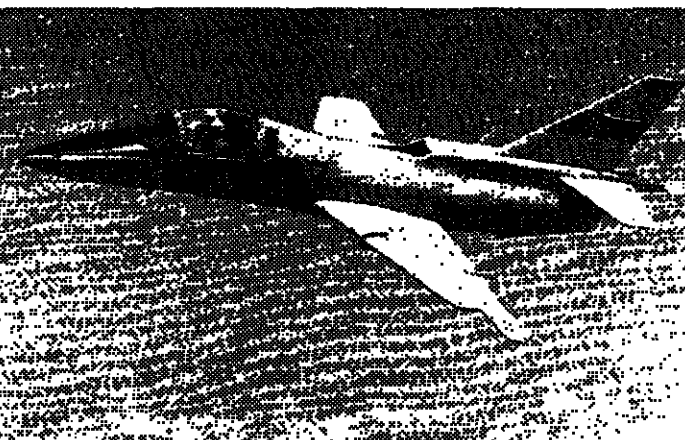
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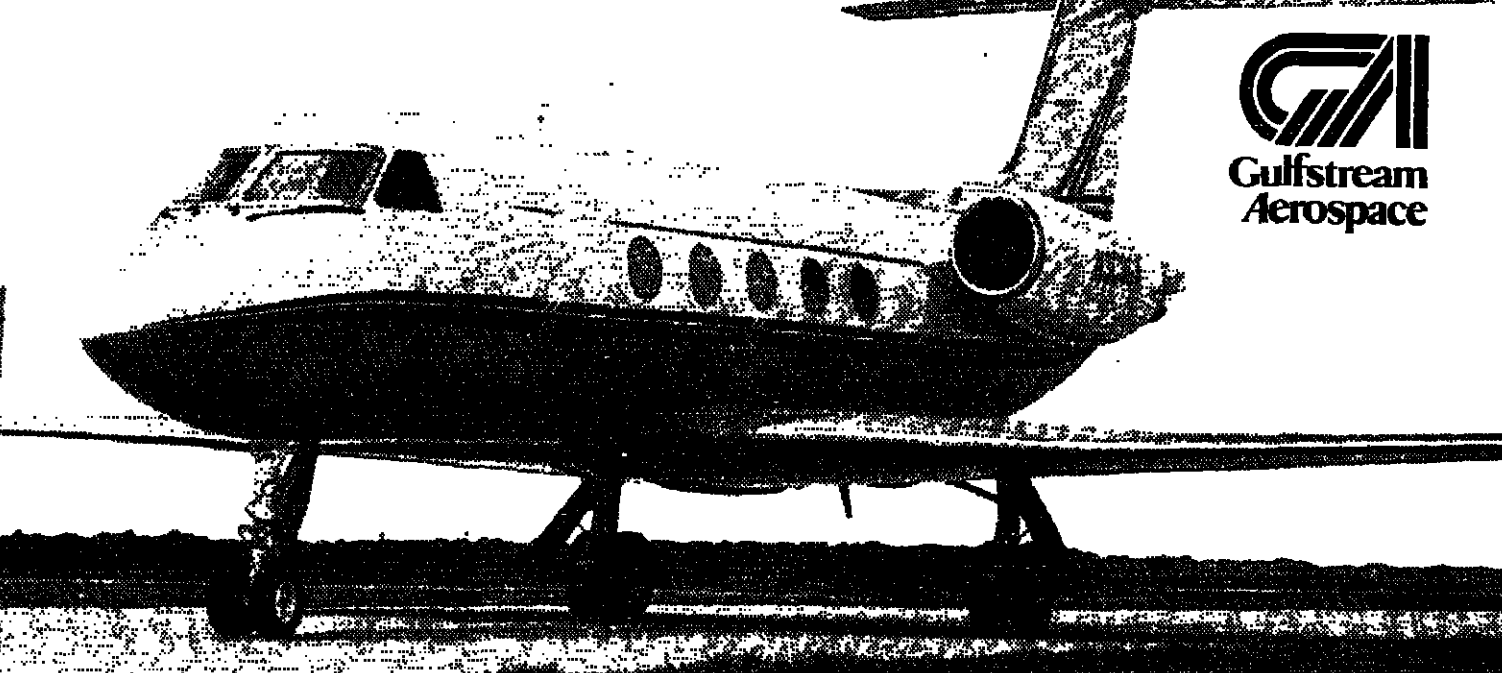
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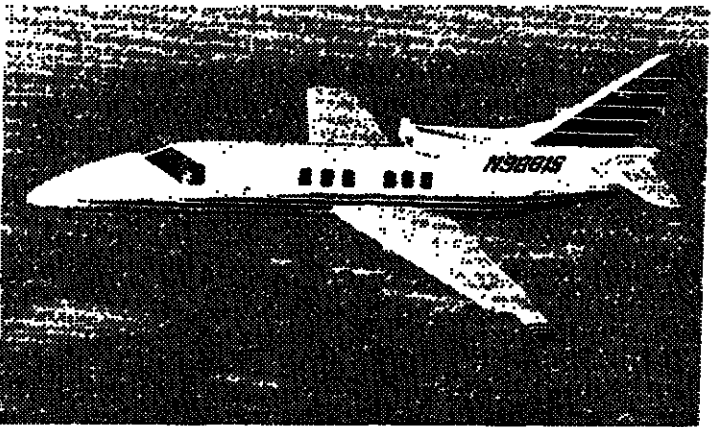


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## AEROSPACE

# Japan Expects \$4-Billion Space Industry To Increase Tenfold During Next Decade

By Ken Ishii

TOKYO — Since the first Japanese satellite was launched 12 years ago, Japan's exploration and use of space has developed into an industry that generates \$4 billion worth of business a year. And, although Japan does not come close to the United States or the Soviet Union, Japanese officials consider their space accomplishments to be not far behind — and in some areas ahead of — the 11-nation European Space Agency.

With 26 successful satellite launchings to their credit and strong government support, Japanese officials hope to see their industry grow tenfold within the next decade. Japanese ambitions include sending into geostationary orbit sophisticated satellites on launch vehicles that can carry up to 800 kilograms. The maximum payload for Japan's largest rocket today is 350 kilograms.

Moreover, Japanese officials predict that an increasing percentage of space equipment will incorporate Japanese technology. They point out that more than 45 percent of the total cost of the 11 application satellites placed into orbit since 1975 went to Japanese contractors.

Space development in Japan is the responsibility of two parallel but separate organizations. The larger is the National Space Development Agency (NSDA), which is charged with developing satellites and launch vehicles for practical and commercial use, and the launching and tracking of satellites. The other is the Institute of Space and Astronautical Science (ISAS), which develops satellites and launch vehicles for scientific purposes. NSDA comes under the science and technology agency, and ISAS is supervised by the Ministry of Education.

The launch vehicle developed by ISAS, which put Japan's first satellite into orbit in 1970, when its ac-

tivities were still part of the University of Tokyo, is the M rocket. The latest in the M series is the M-3S, a three-stage solid propellant rocket able to lift a 300-kilogram satellite into a low-altitude orbit. But a modified version to lift 670 kilograms is under development.

However, the major burden of Japan's space development rests on NASDA, which takes up more than 80 percent of the government's space budget.

The newest NASDA launch vehicle in use is the N-2, which uses liquid propellant for the first and second stages and solid propellant for the third stage. It can lift a 350-kilogram geostationary satellite into orbit, which it did for the first time in August last year. Last February, it put Japan's first practical communications satellite in space.

The N-2 will continue to be used as NASDA's main launch vehicle for the next several years, until development is completed on NASDA's next rocket, the H-1. That rocket, which also has three stages, combines the first stage of the N-2, a cryogenic propulsion system, liquid oxygen, a liquid hydrogen engine for the second stage and a large, solid propellant motor for the third stage. It will be equipped with an inertial guidance system and built-in computer for attitude and orbit control. The first H-1's will be designed to carry geostationary satellites of up to 550 kilograms. A modified version with an 800-kilogram payload capacity is expected to follow.

Efforts to develop larger rockets were doubled after Nippon Telegraph and Telephone Co. let it be known last spring that it was considering using the American space shuttle to send up satellites of one ton and more, planned for the late 1980s, because it did not expect NASDA to be able to develop launch vehicles that were powerful enough in time.

Nippon also noted that it would cost less to use the space shuttle,

which Japanese officials do not deny. But they protest that the company's proposal runs counter to government policy, which calls for the development of an independent Japanese space capability.

The new NASDA target is to develop an H-series rocket with a one-ton payload capability by 1990, if not before. But much depends on budgetary allocations.

Early on, the government's space budget increased rapidly, from 148 billion yen in 1970 to 950 billion yen in 1977. But the rate of increase thereafter has been minimal. By 1981, the budget was slightly more than 1 trillion yen, or about one-twelfth of the budget of America's NASA, and one-twelfth of the budget of the U.S. Department of Defense, whose space studies, however, cover a much broader field.

Japanese space officials are aware that their success depends on how political and economic considerations affect the thinking of the ruling Liberal-Democratic Party. There has been heated discussion both in and out of the government of the wisdom of spending huge sums to develop Japan's own space technology when foreign launch vehicles can put Japanese satellites into space for less. The outlay to launch an N-2 is about 60 billion yen.

Japan's space budget in 1980 was 0.041 percent of gross national product. But with Japan's first commitment to space development reaffirmed under the guidelines set forth in 1978 to cover the next 15 years, it is unlikely that the momentum will be stopped.

Although more of Japanese space contracts are going to domestic manufacturers, the technology is mostly from the United States. Only 35 percent of the technology in the N-1 launch vehicle, for example, was Japanese. In the N-2, the first-stage propulsion system is the engine of the United States Thor Delta rocket made in Japan

under license, as are its nine strap-on boosters.

Its second stage is identical to a U.S. Delta engine, with certain Japanese modifications, including an increase in propellant tank capacity to 6 tons and giving the nozzle extension an expansion ratio of 65:1 to increase specific impulse. Officials say they hope that by the time their H rocket is ready, 80 percent of the technology will be Japanese.

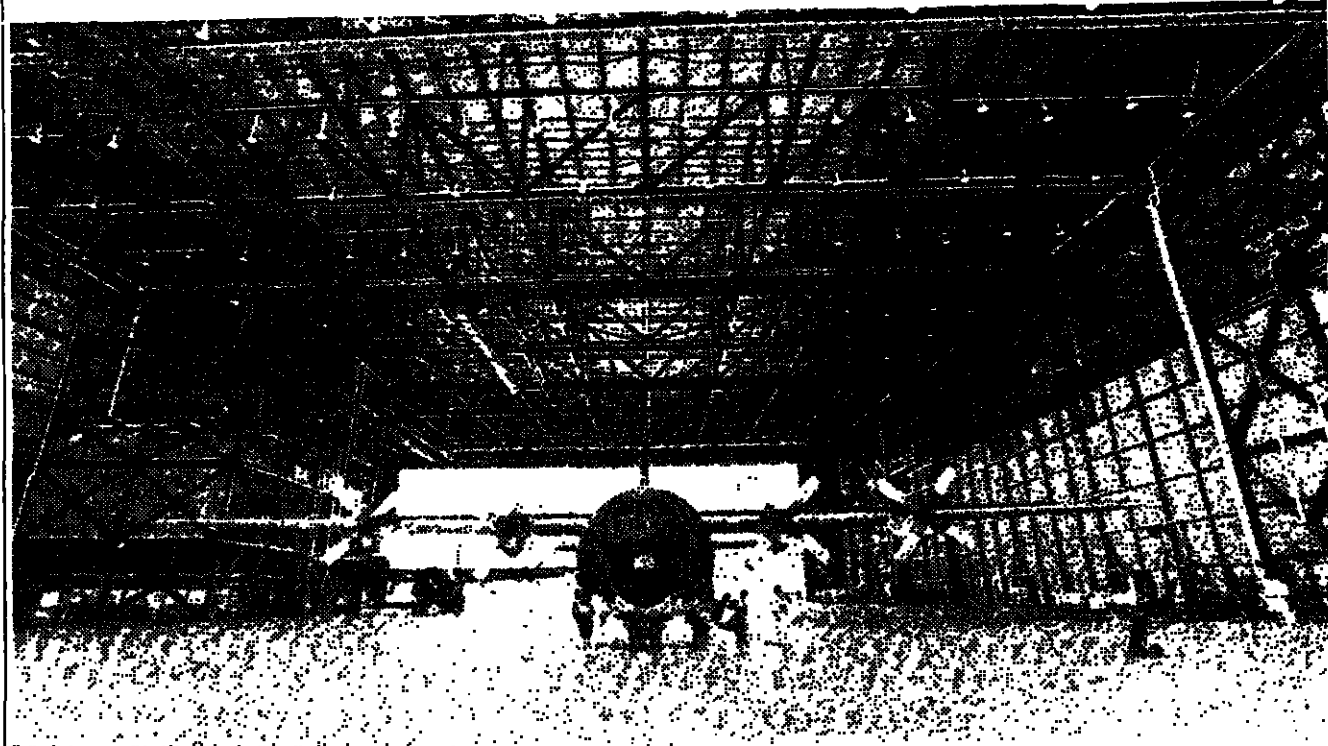
In some areas, the Japanese have made considerable progress. For example, in 1977, the Japanese became the third country in the world, after the United States and the Soviet Union, to place a satellite into geostationary orbit.

Officials say Japanese technology is second to none when it comes to transponders. They take pride in having built a broadcasting transponder with such a high frequency (20/30 gigahertz) that waves are unaffected by rain, known as "dumping," which tends to blur the picture.

Since 1975, when NASDA launched its first application satellite, it has put into space satellites for weather observation, broadcasting, communications and for sounding the ionosphere. Its launching schedule through 1986 calls for at least another six application satellites. ISAS, meanwhile, will continue launching scientific satellites at a rate of about one a year.

The first decade of Japanese space activity, which began in 1969, when the United States signed an agreement with Japan to provide space technology, is what Japanese officials call "the decade of compulsory education."

Now, they say, Japan is in its second space decade, one in which the emphasis is on developing technology and components made in Japan. As one official put it: "We must develop our own technology so we can cooperate with other countries on an equal basis in the peaceful use of space."



The Hellenic Aerospace Industry's high hangar with two C-130 Hercules planes parked inside.

## Greece: A \$400-Million Aerospace Investment

By Andriana Ierodiakonou

ATHENS — The Greek aerospace industry is the country's technological showcase. Representing an investment of about \$400 million, it is Greece's single largest industrial undertaking and the one that comes closest to fulfilling Prime Minister Andreas Papandreu's goal of developing a competitive, high-technology industrial sector.

The industry is centered 65 kilometers north of Athens on 185 hectares adjacent to the Greek air force base at Tanagra. There, the Hellenic Aerospace Industry, or HAI, houses a complete aeronautical plant that is one of the most up-to-date in Western Europe. It is capable of manufacturing, overhauling and repairing aircraft, accessories, engines and electronics. It also manufactures and assembles aircraft parts. Last December, HAI celebrated the repair of its 250th aircraft and its 500th engine.

Plans to establish the HAI facility, which aeronautics experts call "state of the art" were launched in 1975, with the original aim of making the Greek air force, as well as the state-owned Olympic Airways, self-sufficient in maintenance and repair.

However, by the time HAI began operating in 1979, the plans had been expanded to include the goal of competing for contracts on the international aerospace market, particularly, given Greece's geographical location and close political ties with the Arab world, in North Africa and the Middle East.

Today HAI, which employs about 3,400 people, handles contracts spanning the Middle East and Western Europe. HAI, which is protected by radar screens, gets technological and managerial help from several international companies, mainly from the United States.

According to company officials, HAI now is on the edge of a new era because of the imminent planned purchase by the government of more than 100 new mili-

tary aircraft. The purchase, which is expected to be announced in June, should offer HAI the prospect of acquiring wide-ranging and sophisticated technical knowledge.

The government is considering three types of very sophisticated aircraft — U.S.-made F-16s, French Mirage 2000s and the West German-Italian-British Tornado. Charalambos Kouris, HAI's assistant general manager, said, "Technology transfer from the manufacturing companies to HAI will be a part of the purchase agreement, through special offset terms. We believe this will open up new horizons for HAI."

In recent years, HAI has contracted to work with such companies as Lockheed Aircraft International, Lockheed, under a 15-year contract signed in 1976, took charge of operating management at HAI for six years starting in 1979. Technology in the aircraft and accessory divisions is provided by the Lockheed Aircraft Service Company. Engine division technology comes from General Electric, and electronics division technology from Westinghouse. The Atar 9K engine technology for work on F-16 Mirage aircraft comes from the French SNECMA.

HAI, which services the older aircraft of the Greek air force, has been able to compete successfully for contracts for work on more sophisticated aircraft from other countries. Officials pointed to a 1981 contract worth \$2 million that was secured with the United States Air Force in Europe (USAFE) against stiff West German, Belgian, Italian and Portuguese competition. The contracted work will involve the repair of F-33 aircraft engines for four years.

Other current contracts include the manufacture and assembly of A-300 aircraft door frames for Airbus Industrie, skin work and aircraft parts manufacture and assembly for Aeritalia G-222 planes, USAF J-79 engine repair and Canadair CL-125 aircraft parts work. HAI's electronics division also repairs Sidewinder missiles for

the Greek air force and for the North Atlantic Treaty Organization.

In the Middle East, contracts include the repair of Egyptian Hercules C-130 transport aircraft and the repair of Jordanian Mirage F-1C engines. HAI officials are negotiating repair contracts with Gabon, Iraq, Nigeria and the Sudan.

In addition, HAI offers training programs, which were developed as a spin-off from its own in-house training programs, for officers and noncommissioned officers, which are attended by about 70 people from Lebanon, Bahrain and Dubai. Despite the company's competitiveness in some markets, however, annual losses since the plant began operating in 1979 have been about \$1 million. Company officials made no predictions about future financial performance, but stressed that these losses are offset by the fact that Greece saves valuable foreign exchange through its overseas contracts.

However, the current management contract with Lockheed Aircraft International is costing about \$200,000 to \$300,000 yearly in salaries to Lockheed employees, and HAI officials are discussing ways

to end the contract early. An option in the agreement allows for termination in 1984, with some compensation, possibly as much as \$1 million, to Lockheed.

HAI officials said they would like to do away with foreign control of vital company activities and decisions. They also said that Greece is unhappy with the rate at which knowledge is being transferred to Greek personnel under terms of the contract. Additionally, they pointed to a possible conflict of interest in the supervision of marketing by a Lockheed employee, since HAI competes with Lockheed subsidiaries for some contracts.

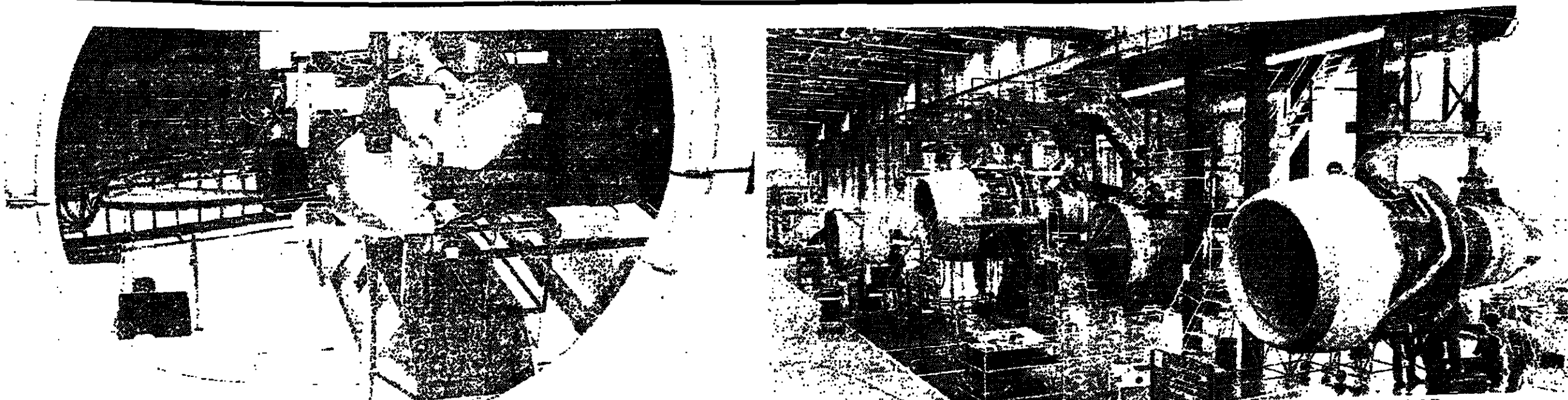
Meanwhile, Greek aerospace officials said that advanced technological know-how from abroad is crucial to HAI's success and also may determine whether HAI extends its activities to include full manufacture of aircraft. Plans to make a light training aircraft, for example, have been in the air at HAI for the last year or two. Certainly, once the Papandreu government announces its decision on its major jet purchase, the future prospects for HAI will become clearer.

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## AEROSPACE



New generation engines: Left, General Electric's CT7 engine, selected for the SAAB-Fairchild 340 regional and executive airliner, continues testing. At right, the Rolls-Royce 535C engines for Boeing 757 airliners.

## High Costs, Market Uncertainties Force Engine Firms Into Alliances

LONDON — Escalating development costs and uncertainties over future markets are beginning to force the world's big jet engine manufacturers, until now fierce competitors, into uneasy alliances.

The most classic recent example is an agreement to collaborate on a family of engines with a thrust range between 20,000 pounds and 30,000 pounds for projected 150-seat airliners between old rivals Rolls-Royce of Britain and Pratt and Whitney of the United States together with minor partners MTU of West Germany, Fiat Aviazione of Italy and a consortium of three Japanese companies.

No one company could have even considered facing the cost of such a project, put as high as \$1.5 billion, on its own. Shared among five partners, the figure becomes a practical one.

Both Rolls, in company with the Japanese, and Pratt, in company with the West Germans and the Italians, have been working on a 20,000-pound engine, with similar aims of reducing fuel consumption by at least 15 percent, compared with the best engines in that thrust range today, and these two projects will be fused into the new engine.

This will be aimed at airliners of the next

generation such as the Airbus Industrie A-320, the Boeing 737-400 and the McDonnell Douglas DC-9X and D-3300. The project is awaiting the approval of the boards of the five companies, expected by June 30.

Although the partners have already done much work on the 20,000-pound engine, it will take up to five more years before certification. Meanwhile, another important engine manufacturing grouping, between General Electric of the United States and SNECMA of France, has an engine within the same thrust range developed and flying in service. This is the CFM-56-2, rated at 22,000 pounds to 24,000 pounds, and a refined version, with improved economics, is being offered to Airbus Industrie to power its projected A-320 airliner.

CFM-56s have been fitted to DC-8 airliners in place of earlier engines with four U.S. airlines. The French Air Force has also placed a re-engineing order, and the manufacturers involved also hope that DC-8s updated in this way will create a popular form of executive transport in the Middle East, where a demonstrator aircraft has recently been on a sales tour. According to Cessna Corp., the U.S. company that is the program manager for the re-engineing,

the CFM-56 uses between 17 percent and 20 percent less fuel than its predecessors and is far quieter on takeoff and landing.

The puzzle for the airlines is whether they should buy the CFM-56 now, rather than continue to use their older, expensive "gas guzzling" engines, or wait until toward the end of the decade for the five-nation consortium engine, with its later technology and, hopefully, even lower fuel burn.

Like General Electric and SNECMA, Rolls-Royce is hoping to cash in on the current aversion among the financially troubled airlines to spending billions of dollars on new airplanes while there is life in those that they have, by promoting its own new engine, which can be "retrofitted." This is the TAY, an advanced development of the older Spey engine, which will have a thrust of 13,500 pounds, be far quieter and use 15 percent less kerosene. The TAY was launched recently on an order for 200, worth \$300 million, from Gulfstream Aerospace of the United States to power its new Gulfstream IV business aircraft, but Rolls hopes for big sales to operators of British BAC 1-11 and Dutch Fokker F-28 airliners.

Spey engines, with which these airlines are now powered, will not meet the new noise regulations being enforced in Britain and in a number of European countries from the beginning of 1986 unless they are expensively sound-deadened, with a loss of performance.

While most of the interest centers around engines in the lower thrust brackets, Pratt and Whitney, General Electric and Rolls-Royce all continue to invest in developed versions of their big engines, even though sales of the wide-bodied airliners that they were originally produced to power have slowed down dramatically as a result of the business slump.

Rolls is currently discussing with aircraft manufacturers a study for an advanced version of its RB-211, which powers all Lockheed TriStars, the Boeing 757 and some Boeing 747 jumbos, with a takeoff thrust potential up to 59,000 pounds. Pratt and GE are also talking with potential users about similar scaled-up versions of their JT-9 and CF-6 engines, which are on 747s, DC-10s, and the A-300 and A-310 European airliners. All three companies recognize the advantages of a family of engines, with thrust that can be scaled up or down around a basic core

without the enormous research and development funding that is required for a new design.

The concept of a family of engines is also being heavily promoted in the military sector on either side of the Atlantic, a typical example being the RB-199 developed for the Tornado fighter-bomber by the aero-engine companies of Britain, West Germany and Italy. The engine continues to be improved and is now being offered to airframe manufacturers for a variety of new military projects, among them the agile combat aircraft that Britain plans to produce as the main fighter for the Royal Air Force in the 1990s.

At the same time, interest is beginning to grow in studies for an advanced engine to power the vertical takeoff and landing fighters of the future. This would be based on the Rolls-Royce Pegasus, which powers the Harrier, but unlike the Pegasus would be supersonic. Even more futuristic are initial designs for an engine for a second generation of supersonic airliners. Unlike the Olympus, which is in the Anglo-French Concorde, this would be quiet on takeoff and landing and economic in operation.

Engines that will use less fuel in the future are a major preoccupation of the manufacturers, for

although there is a pause in kerosene prices at present most users expect the price to return above the dollar per gallon level again before long. The fuel crisis of the 1970s taught airlines and military services how to operate their aircraft economically, using such procedures as shutting down some engines while taxiing, and more accurate flying, utilizing the advanced avionics electronics and automatic engine controls that are now on flight decks. But advances that will enable them at least to keep pace with the escalating kerosene costs that are anticipated — and with no sensible substitute for fossil fuel even on the aerospace horizon.

Engine manufacturers are anxious to sell their products not only to keep their factories busy at a time of recession but as an investment in their business for the future, for the trade in spares for a successful engine is lucrative and can last a generation or more. A classic case in point is the Rolls-Royce Dart turbo-prop. It entered service 30 years ago this year on the Viscount airliner and has earned Rolls over \$675 million in sales and spares. More than 7,100 have been sold, and more than 100 million hours of operating experience have been built up.

—ARTHUR REED

## New Round of Fare-Slashing Not Expected to Hit Europe

LONDON — Following the collapse in February 1982 of Sir Freddie Laker's aviation venture, the era of cheap fares seemed to be over, but now the U.S. airlines People Express has offered a \$145 one-way ticket between London and Newark, New Jersey, and the air fares war has broken out all over again.

People Express is the best known of a new breed of U.S. carriers that has sprung up since deregulation — the policy that allows entrepreneurs to fly more or less where they like and at what fares, as long as Federal Aviation Administration safety criteria are satisfied. The newcomers are non-unionized, they use cheap second-hand airplanes and they offer passengers frequent flights, but a minimum of amenities in return for low prices.

Strong pressure has been applied from various sources on the European airlines — and the governments that back them — to introduce deregulation, but so far without success.

The protagonists of fares and routes freedom in Europe point to the fact that European passengers often have to pay up to double the fare paid by passengers inside America to travel similar distances.

Airlines wanting to start up new routes usually become bogged down in lengthy licensing proceedings and then find themselves rejected by government departments that have negotiated bilateral agreements, which allow only one airline from each country on a route and which authorize the sharing of revenues through pooling arrangements.

Those people in Europe who are against deregulation base their case on the argument that it is fallacious to compare airline operations in the United States and on the Continent. In Europe, they say, the basic costs of running airlines are far higher than they are on the other side of the Atlantic. It is an argument that is backed up by statistics from the International Air Transport Association, which indicate, for instance, that crew costs are 210 percent up on those in the United States, maintenance 175 percent, ticketing/sales costs 268 percent, and route and landing charges 500 percent.

Mainly because of noise curfews at airports, which close them at night, European airlines operate 24 percent fewer hours each day compared with their U.S. counterparts, LATA said. LATA added that overall, European costs were twice those in America, but the organization noted that despite this, European fares are, on average, only 35 percent higher.

Studies by the European Civil Aviation Conference and the Commission of the European Community have concluded that European airlines, in general, make inadequate profits. European airlines would like to raise their fares to get a better financial return, but they fear that any increases in the cost of traveling business class at a time of slowing inflation would be counter-productive by frightening off executive users.

While business class, which has replaced first class in most airlines, has been a success story within Europe, airlines have noted in recent

### OPERATING COST COMPARISONS LOCAL EUROPE vs. U.S. DOMESTIC

European operating costs are the highest in the world and twice the level of U.S. operating costs.

Item	Passenger Cost (U.S. Cents)		% of Total Cost	
	Europe % of U.S. Cost	Local Europe	U.S. Domestic Trunk	Local Europe
Crew	210	0.99	0.47	10.6
Fuel	145	1.98	1.36	21.2
Maintenance	176	0.80	0.46	8.6
Depreciation	165	0.46	0.28	4.9
Route & Landing Charges	500	1.05	0.20	11.2
Station & Ground	190	1.36	0.72	14.6
Passenger Service	115	0.50	0.43	5.3
Ticketing Sales	268	1.63	0.61	17.4
Other	322	0.58	0.18	6.2
TOTALS	199	9.35	4.71	100

Source: IATA Cost Committee US CAB form 41

In relation to the United States, European airlines operate 24 percent fewer hours per day, make 90 percent more landings and use aircraft with 50 percent fewer seats.

Against this background it is noteworthy that, while European costs are twice U.S. levels, European fares are on the average only 35 percent higher than U.S. fares.

months a significant move down market on many other routes. Companies that bought first-class tickets now buy club class, those who bought club now buy economy, and others keep their executives in the office to do business on the telephone, telex or video link.

The large, old-established airlines appear to be at a loss over how to combat the new, deregulated breed, particularly in view of the pending investigation by the U.S. Justice Department into alleged price-fixing on the North Atlantic routes at the time that Sir Freddie Laker began his cheap-fare Skytrain flights between London and New York. Laker's financial crash resulted in the British liquidator filing a suit in U.S. courts against the big airlines — British Airways, British Caledonian, Pan American, Trans World, Lufthansa and Swissair — alleging conspiracy among them to drive Laker off the Atlantic.

With such actions outstanding, it is unlikely that the operators mentioned would want to be seen as trying to run People Express off the route through fares-cutting. Fares-cutting could bring charges of dumping on the market seats at uneconomic prices. Rather, the big airlines are likely to do nothing, secure in the knowledge that People Express will be a small part of the total North Atlantic business and, possibly, with the hope that the newcomer will overextend itself and will withdraw before its losses become too severe.

Another problem with which the airlines must cope is the discounting of tickets by quasi-legal travel agencies or shops, a practice that LATA estimates costs the airline in-

dustry as much as \$1 billion a year. LATA has established a special group within its airline members to combat this trend, but with far too many seats chasing too few passengers, the temptation to fill up their aircraft with low-fare passengers continues to prove too much for many of the airlines. In parts of the world, tickets at up to 70 percent below the published price are available.

Another practice that affects airline finances and, therefore, the level of fares charged, is the practice by some countries — particularly in Africa — of blocking or delaying currency earned there by the airline industry. Up to 40 world airlines are affected, and it is estimated that they are owed a total of about \$600 million.

With all of these economic forces flowing against them, the airlines will have problems financing the estimated \$50 billion needed through the current decade to replace obsolete aircraft and other equipment. Traditionally, profits from passenger fares and cargo rates have financed capital investment. Instead, they will have to go to banks and finance houses for loans, which will result in a serious worsening of their debt-equity ratios.

In an effort to maximize the revenues that they obtain from passengers, airlines may be expected to concentrate more on nurturing trade with passengers who have money to spend on first-class and business seats, rather than on the cheap-fare leisure market, which has been the center of attention.

The bottom end of the market will be left to charter operators, to

(Continued on Page 16S)

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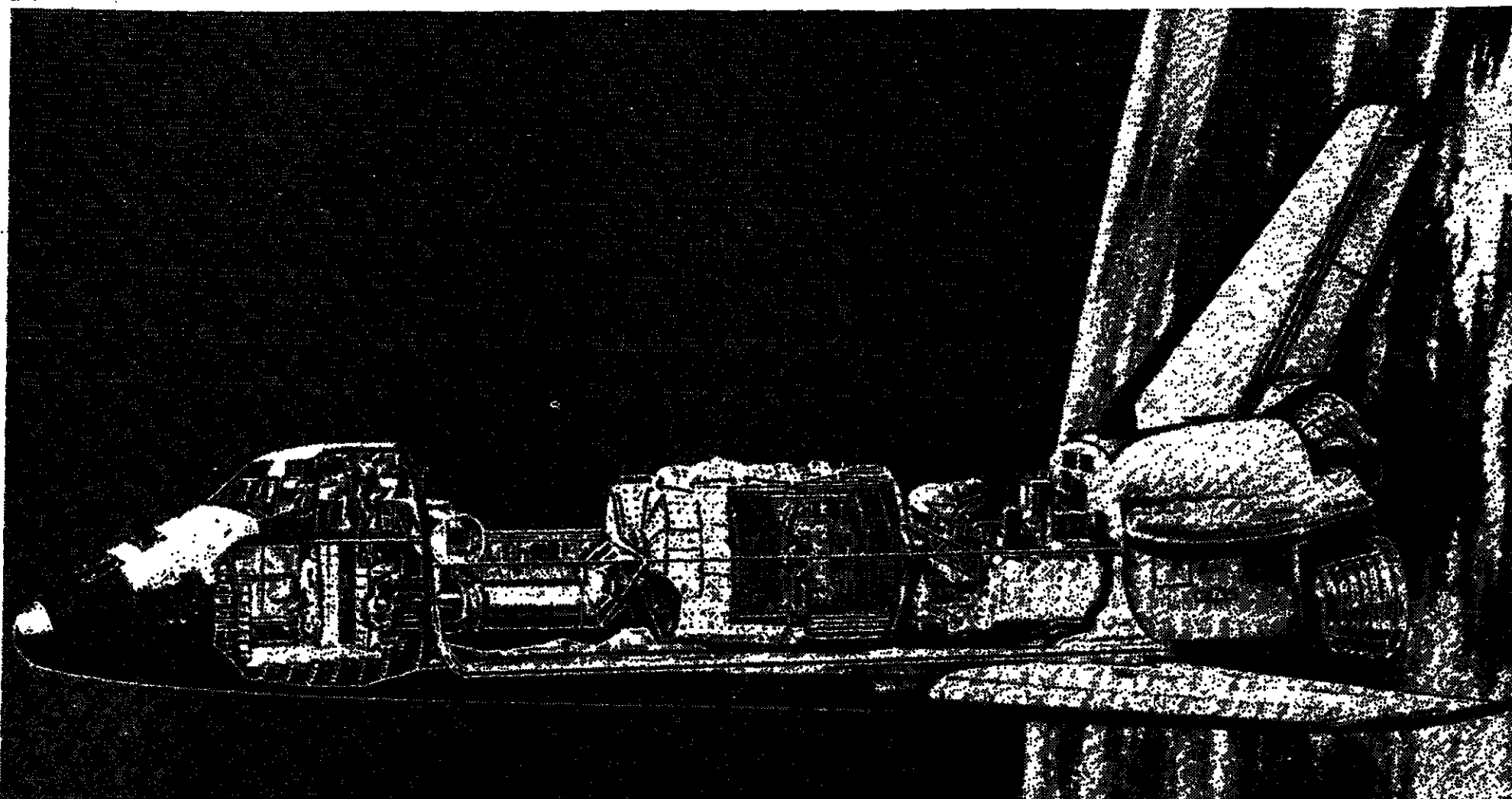
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## AEROSPACE



A model of the U.S. space shuttle carrying the spacelab.

## European Space Hopes Depend on Successful Ariane Launch

(Continued from Page 9S)

nants," Claude Nicollier of Switzerland and Wubbo Ockels of the Netherlands, will participate in future Spacelab experiments.

Other programs of the European Space Agency that are under way include: development of advanced research in such areas as satellite communications; optical methods used in data processing and propulsion; and development of a remote-sensing system. Meanwhile, the agency is beginning to examine the possibilities of cooperating with NASA to build an orbiting space station.

"Even if there is a failure of Ariane, we could continue our programs," Erik Quistgaard, the European agency's director-general, said recently at the Paris headquarters. He noted that he will be meeting NASA Administrator James M. Beggs in the French capital on June 1, to focus on present and future cooperation between the two agencies, despite their competition in selling launching services.

For example, Ariane executives were hardly overjoyed that the European agency contracted with NASA for the first launching of an Exosat scientific satellite in the United States. The satellite's purpose is to determine the position and structure of celestial X-ray sources. The launching had been scheduled aboard Ariane, but the schedule was disrupted — and delayed — following the Sept. 10, 1982, crash of a fifth Ariane launcher.

Since there was no other alternative, the European agency contracted with NASA for a launch on the American Delta craft from Vandenberg Base, California. "It was a bit painful having to turn to the United States, considering the reason for the service and the fact that Exosat is a Euro-

pean satellite," an Ariane executive said, "but the important thing is the program is continuing."

Through 1984, the agency can count on continued budgetary support from member governments for current projects, such as developing advanced Ariane craft and expanding the launch facilities at Kourou. Expressed in current prices, the agency's budget, which is split among its 11 member nations, has grown dramatically — from 85 million European Currency Units (ECUs) in 1972 to 787 million ECUs a decade later and to slightly more than 1 billion ECUs this year.

Although NASA's \$7-billion budget and that of the Soviet Union are considerably larger than that of the European Space Agency, ESA is viewed by member governments as an important venture not only for developing key, home-grown technology for Europe, but for creating jobs. Directly or indirectly, the agency employs about 10,000 persons, including 700 at Kourou.

"Although governments provide our budget, the fallout on our participating firms is incalculable, particularly during a period of economic recession," said Mr. Quistgaard. He added that the agency is looking at major future projects, including development of a highly advanced cryogenic engine for Ariane 5, which is still on the drawing boards.

"It would take 11 years and tens of millions of dollars to develop the engine," said Mr. Quistgaard, a Dane who is a former automobile and shipbuilding executive. "It shows that we have projects for 1985 and beyond."

The immediate focus, however, is Ariane's next launching, which is being prepared amid what a key figure described as "enormous precau-

tions" to avoid another failure. "If we succeed, and I am sure we will, then we will have the confidence of the world," said Michel Bignier, director of the agency's space transportation systems. "A lot is riding on that shot."

The engineering efforts have focused mainly on correcting the cause of the last crash, a mechanical failure in the turbopump of the rocket's third stage.

The launch is set tentatively for around June 16, two weeks after the initial June 3 date. The final decision will be made on May 31 by Mr. Quistgaard and Frederic d'Allest, chairman of Arianeespace and director of the French National Center for Space Studies. They will study detailed reports of engineers and technicians who are completing a final, flight-readiness review. "It is a very heavy burden," Mr. Quistgaard said of the approaching deadline.

NASA has been taking the European efforts in calm and cordial stride. "They're going to get past these problems and they're going to have a safe and reliable machine and they have a very formidable team of people to operate that," Lieutenant General James Abrahamson, NASA's associate administrator said in an interview with a U.S. trade publication earlier this year.

"In the early 1960s, when we were getting started, our batting average was around 50-50," another senior NASA official said last week, "and that pump being used in Ariane 1 is high technology... it is state of the art."

Meanwhile, other more sophisticated and powerful models are being built, including Ariane 2 and 3, which are scheduled for launch starting in mid-1984. The agency's most advanced rocket, known as Ariane 4, will be operational by the end of 1985 or early 1986, officials said. "When our second pad is ready at Kourou in 1985, we will be able to launch once every five weeks and increase production" from the present annual level of around five units to eight, Mr. Bignier said.

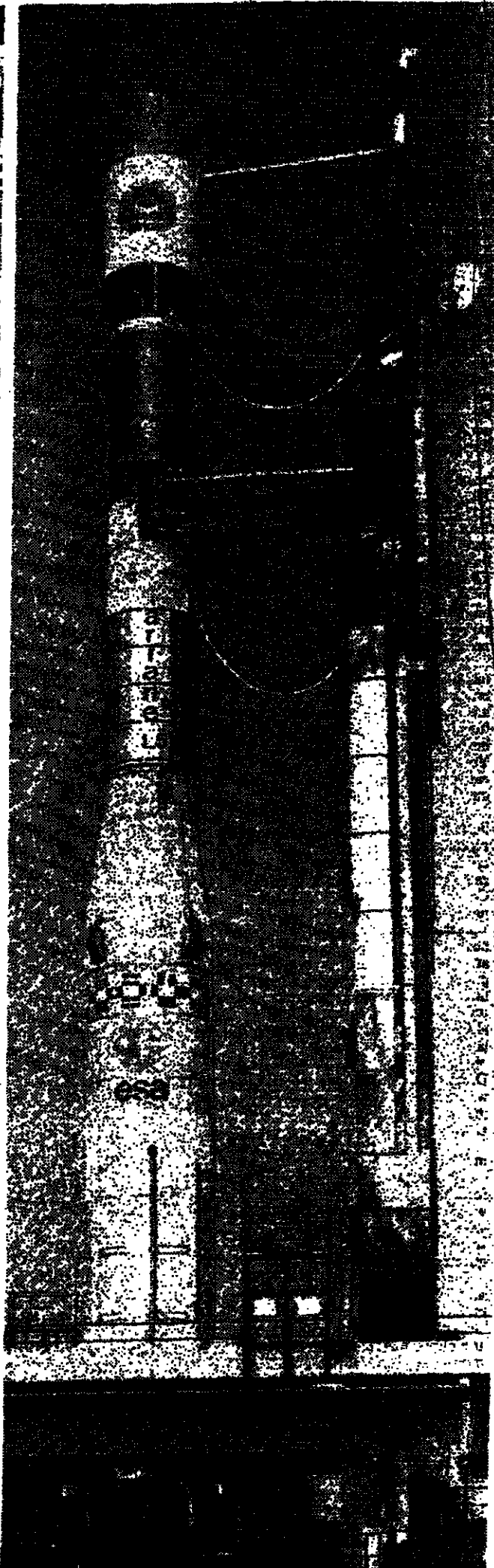
Ariane 4 is being aimed at one of the industry's single most important satellite projects, Intelsat 6, which is widely regarded as the most powerful telecommunications satellite of the decade. "We shall be competing hard," Mr. Daoud said. He noted that, during the last few years, ESA has worked closely with NASA to develop earlier versions of the Intelsat satellites. But NASA and possibly private groups will be competing for the new Intelsat launch contract.

The worldwide competition for launching 258 civilian satellites between 1985 and 1991 has become intense, and increasingly sophisticated from a marketing standpoint. Until Oct. 1, 1985, and under U.S. government guidelines, NASA's rates for the shuttle will remain considerably below Ariane's rates. NASA charges about \$16 million per launch; Ariane costs about \$30 million, depending on customer requirements. Rates for using Delta, an earlier U.S. launcher are far closer to its European competitor.

"After 1985, when the American shuttle rates are raised between 50 and 60 percent to reflect the real costs, we will be on a fairer and more equal footing," Mr. Daoud said. He conceded that Ariane's recent loss of a major contract to NASA for two launches in Australia. "We were more expensive," he said. Mr. Daoud added that the hard-driving salesmanship of Lieutenant General Abrahamson helped clinch the deal for the Americans.

NASA officials quietly concede that the Europeans have greatly stimulated their own marketing efforts. "Since Ariane, we have had to hustle a lot more, and it has worked successfully for both of us," a senior NASA official said.

Reflecting its determination to increase its foothold in the U.S. market,



Ariane on its launching pad in French Guiana.

Ariane recently opened an office in Washington. Arianeespace agrees with industry projections that the United States will remain the largest market in the world for civilian satellites in the 1985-1991 period. Officials expect the United States to account for 52 percent of the total market, against 16 percent for Western Europe and 12 percent in developing countries.

The Federal Communications Commission in Washington recently approved 19 applications for new communications satellites.

"They will be there, too, actively looking for launch facilities," Mr. Daoud said, "and we plan to be actively presenting our services. It is a very dynamic business."

On the assumption that Ariane's June launch will be successful, ESA engineers are already preparing follow-up launches by the European craft of several Intelsat satellites, starting on Aug. 26.

"And we are keeping our fingers crossed," an Arianeespace executive said.

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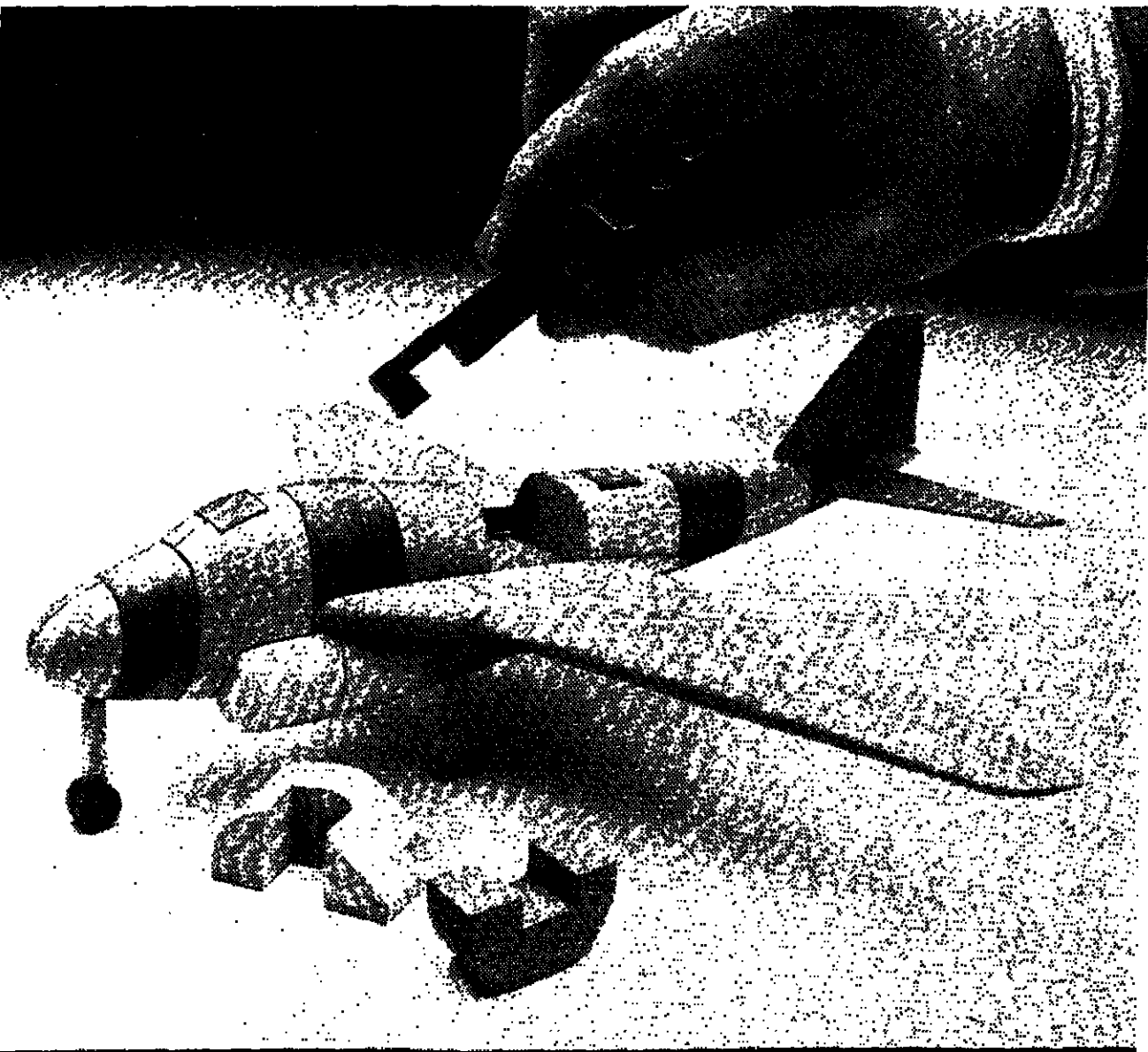
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## NASA Gets Into Gear for Heavy Space Load

Shuttle Flights Prove Craft's Worth as Working Service Fleet for Satellites

By Thomas O'Toole

WASHINGTON — When the National Aeronautics and Space Administration almost lost a \$100-million satellite called the Tracking Data and Relay Satellite early in April, space agency officials from the Goddard Space Flight Center in Maryland to the Jet Propulsion Laboratory in California threw up their hands in dismay.

"We've lost it," one senior NASA official cried out when the TDRS started tumbling out of control after a second-stage engine taking the satellite into a 22,400-mile-high orbit misfired. "Forget it," another said. "It's all over."

Luckily, it wasn't all over. For almost three hours, the satellite tumbled through space deaf to all the commands being radioed up to it to stop tumbling and stabilize itself. Fifteen minutes before its batteries ran out, the satellite's tumbling antenna caught one of the commands being beamed continuously at it from Earth, separated itself from its engine, fired tiny thruster jets to stop its tumble and unfolded its solar panels to go off battery power.

It was almost a miracle. One of the most costly disasters in American space history had been avoided in what could only be called the nick of time. Robert O. Aller, director of the TDRS program, said: "We got it back under control only because of the outstanding efforts of an excellent flight control team that reminds me that this business is one of men and machines, not just machines."

TDRS is not just any old machine. It is the first of three identical satellites that the United States

will use to comprise its command post in earth orbit for the next 20 years, a network of relay satellites that will provide round-the-clock global communications coverage with all American satellites in Earth orbit — civilian, commercial and military.

Though the cost of deploying and operating the TDRS network will come to more than \$3 billion for the next 20 years, it will be worth every nickel. Satellites now in earth orbit are out of touch with the ground 80 percent of the time they are in orbit. That includes the space shuttle, whose astronauts can only communicate with Mission Control in Houston when they pass over land where the United States has an operating ground station.

TDRS changes all that. From geosynchronous orbit, where they hover over the same spots on Earth 22,400 miles high, TDRS will relay signals from all earth-orbiting satellites back to the United States 85 percent of the time they are in orbit. What's more, TDRS will allow NASA to send up instrumented payloads like the \$1-billion space lab and the \$1-billion space telescope whose rate of information return is 10 to 20 times that of satellites of the 1970s.

"There would be no other way to get the kind of coverage we need for the next 20 years," Mr. Aller said in a recent interview. "To match this coverage on the ground would require an expansion of our ground-based network that would cost billions of dollars."

While the space agency and the owners of the TDRS satellite, a joint venture of Western Union and General Telephone called Spa-

cecom, are still reshaping the egg-shaped orbit the TDRS satellite wound up in last April, they are more than halfway to getting it in the circular orbit they want that will place it over the equator northeast of Brazil. In the last two weeks, the perigee of the orbit has been raised almost 5,000 miles to where it now stands at 18,240 miles.

The tiny engines on the satellite that have done this have been fired for more than 24 hours. Engineers figure they have another 21 hours of burn time before they get the five-ton satellite to where they want it.

How important is it that the TDRS satellite get to geosynchronous orbit? If it does not get there, the flight of the European-built Spacelab, now scheduled for September 30, will have to be postponed indefinitely. The Landsat satellite now in orbit and which has taken the best photographs of Earth ever made from space will be useless.

The space telescope due to be launched from the shuttle in 1985 or 1986, which has been described as the "most important scientific instrument ever flown" cannot be flown unless it has TDRS to relay its information and receive its commands from Earth.

If the space telescope is the most important scientific instrument ever flown, TDRS might well be described as the most important scientific servant ever flown. Without it, the American space program has a future that at best is a limited one. With it, the future of the U.S. space program is almost limitless.

The satellite's most important role will be to serve the space shuttle,

the first spacecraft fitted with wings and a tail that is built to take off like a rocket and land on Earth like an airplane.

There are two shuttles now in service, Columbia and Challenger. Two more are being built to comprise a fleet of four by 1985. The space shuttle Discovery will make its maiden voyage on the 12th shuttle flight in March of 1984 and the Atlantis will fly for the first time on the 25th shuttle flight in April of 1985. In all, 32 shuttle flights have been scheduled that already take the program to 1988.

The next shuttle flight is the seventh and is now scheduled for June 18. It will carry an Indonesian and a Canadian communications satellite into space and will be historic for one very simple reason — both satellites will be deployed in space by a 50-foot-long mechanical arm manipulated from inside the shuttle cockpit by Sally Ride, the first American woman to fly in space.

Ms. Ride will make space history for more than being the first American woman to go into space. She will be a member of the first crew to land the spaceliner back at the Kennedy Space Center in Florida where they have only taken off from so far. The eighth flight of the shuttle now scheduled for mid-August also promises to make space history. It will be the first manned flight that will take off at night and land at night, though it will make its night landing at Edwards Air Force Base in California where the endless runways give the astronauts more room to make a first night landing.



AEROSPACE

# Public Investors Are Filling Gap in Financing Troubled U.S. Airlines

By Anita Schrodt

NEW YORK — Unsuccessful in their attempts to fill coffers with operating profits, U.S. airlines have found a new source of financing — the public investor.

Banks and other institutional lenders, worried about the airlines' heavily leveraged balance sheets, have backed away from airline financing. But the gap is being filled by individual stockholders.

U.S. airlines raised more equity in the first four months of 1983 than in all of 1982, an unusually active year for airline equity offerings. Most Wall Street analysts expect the activity to continue through the year.

For U.S. airlines, losses have been large for three years in a row. The net loss was about \$900 million last year, according to the Air Transport Association of America, an industry trade group. Investors have not been deterred, however. They apparently are convinced that airline fortunes will turn around and are favorably impressed by the potential savings that lower jet fuel prices imply.

"The market operates on romance rather than fact," said Robert H. Hotz, senior vice president and director of the corporate finance department at Smith, Barney, Harris, Upham & Co. of New York, an investment bank. "It is easier to sell the story when it is out in front of you."

Airlines began going to the public for money in 1982. The pace picked up last fall amid rumors of crude oil price cuts by the Organization of Petroleum Exporting Countries. Airline stock values jumped.

But the move toward the public became most noticeable in January, when E.F. Hutton went to the public with an unusual \$100 million offering of convertible secured trust notes — secured by aircraft already in the fleet and convertible later to common stock — on behalf of Pan American World Airways. Despite speculation that Pan Am was on the verge of financial ruin, the offering oversold, winding up at \$150 million.

Pan Am went back to the market in May with a \$100 million offering — which began as a \$50 million offering — of senior debentures and warrants to purchase common stock. That offering was equally successful, despite Pan Am's first quarter net loss of \$79.6 million.

Last year, U.S. airlines raised more than \$800 million through offerings of common or preferred stock or through debt offering on the public market. In the first two months of 1983, they raised about \$1 billion.

Every major airline and many of the smaller airlines went to the public for money at least once in the fall and during the first half of the year. Delta Air Lines has gone to the public seven times since last fall, according to Thomas S. Hyland Jr., vice president of corporate ratings for Standard & Poor's Corp.

"It reflects a degree of confidence unparalleled in this industry for the past 15 years," said Julius Maldutis, vice president at Salomon Brothers investment banking firm. Mr. Maldutis is less enthusiastic about the airline industry's financial future, he believes, deep discount fares that have eroded the airlines' ability to make profits will continue.

Two airline corporate parents — Texas Air Corp., parent of Continental Airlines, Texas International Airlines and New York Air; and Trans World Corp., parent of Trans World Airlines — decided to share airline ownership successfully this year.

Texas Air raised \$40 million by selling 2 million common shares and 2 million convertible shares of Continental. Trans World raised \$78 million by selling 5.6 million shares of TWA.

Between October of last year and April, Texas Air raised a total of more than \$160 million, including the Continental stock sale; Trans World raised more than \$300 million between June 1982 and April 1983.

Among the transactions, Texas Air sold 3.5 million shares of common stock, raising \$44 million; 1.6 million shares of convertible preferred stock for \$40 million, notes and warrants of Continental to American General, an insurance company, for \$40 million.

Trans World sold 6.6 million shares of preferred stock for \$99 million; 2.75 million shares of common stock for \$77 million; 1.8 million shares of common stock and 1.8 million dual option warrants for \$46 million; and called for redemption of its 12 percent convertible debentures.

1978 and 37 percent in September 1982.

Despite the renewed interest of U.S. investors in airline offerings, some foreign airlines, such as Swissair, are reluctant to jump into the U.S. capital market. Swissair is overexposed to foreign currency fluctuations — 42 percent of its revenue is in Swiss francs, but 50 percent of its expenses is in the local currency.

But, according to Erich Gei-

finger, vice president of finance and economics for Swissair, a tendency of U.S. regulations to require substantial public exposure is the main reason the airline has not gone to the U.S. investor. Mr. Geifinger calls it a "company-wide striptease just for the glaring American investor."

Public markets have experienced activity in Europe along the lines of the capital boom in the United States. Swissair's stock is selling for

more than last year's high: Lufthansa stock is selling for about 50 percent more than a year ago. KLM Royal Dutch Airlines early this year offered a 100 million guilders (\$38 million) equity-linked 7 percent bond issue, which was promptly oversubscribed.

Aircraft manufacturers, concerned about sluggish production lines, have become involved in innovative financing through operating lease sales.

At first thought to be a financing aid that would not catch on, operating lease deals appear to be entrenched as a way to aid airlines that are unable to commit to a multimillion dollar aircraft purchase agreement.

Most recently, one of the five commissioners of the U.S. Export-Import Bank said the bank would be willing to consider an application for loan guarantees on an operating lease sale.

"We would have to consider it on a case-by-case basis. I would like to see someone make an application," said Charles E. Lord, first vice president and vice chairman of the bank.

Mr. Lord said the bank could consider loan guarantees for operating leases when the final operator of the aircraft was a U.S. airline as long as the lessor was a foreign company and "in the business of owning aircraft for rent."

McDonnell Douglas Corp. came up with the first operating lease last year to sell 20 new DC-9 Super 80s to American Airlines, financed directly by Douglas Aircraft, the commercial aircraft subsidiary, and Pratt & Whitney, the engine supplier.

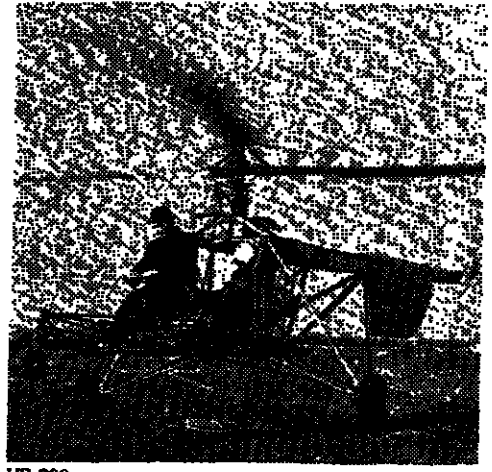
Under the lease agreement, American can cancel on 30 days notice during the first five years, with a penalty, or at the end of five years with no penalty. If that hap-

pens, Pratt & Whitney and Douglas wind up with 20 airplanes to market somewhere else. A similar deal was arranged by Douglas and Pratt & Whitney for 15 DC-9 Super 80s going to Trans World Airlines.

A third eight-year operating lease, worked to finance 33 new 737s for Delta Air Lines, features financing guaranteed by the Boeing Co. and arranged by First Boston Corp. and Goldman Sachs.

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And in the AUH-76 military helicopter, Sikorsky has blended commercial and military expertise to create a multi-role aircraft destined for worldwide service.



BLACK HAWK



BLACK HAWK ESS



SEAHAWK



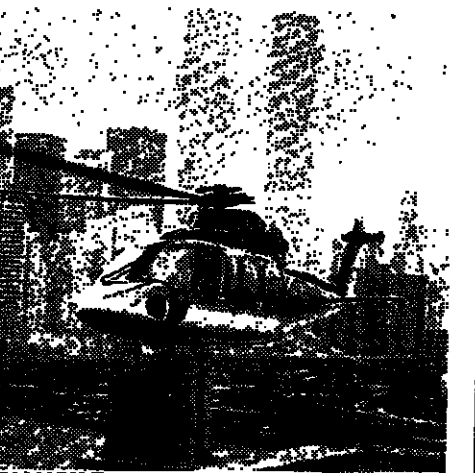
NIGHT HAWK



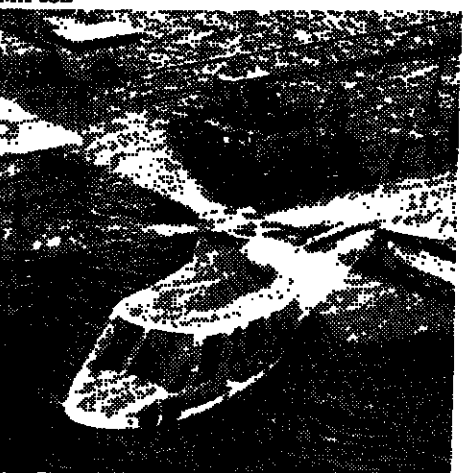
MH-53E



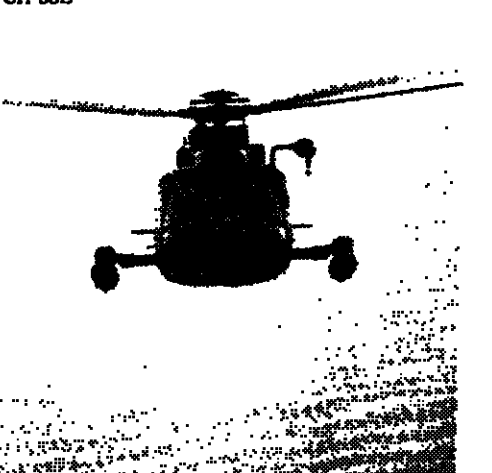
CH-53E



S-76 MARK II



S-76 MARK II

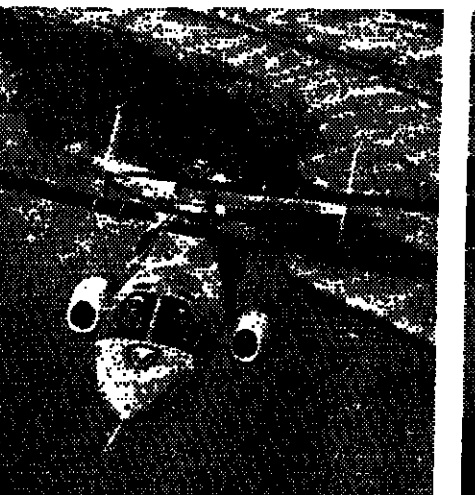


AUH-76

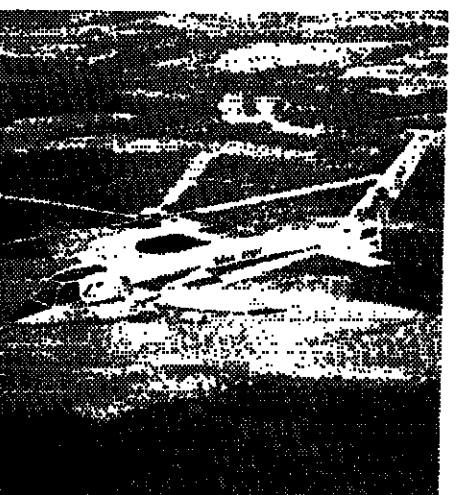
## The Future.

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## AEROSPACE

## Helicopters: Profits Down, Upturn Seen

*Military budgets may be expected to expand quickly, while commercial businesses, seeing a return to profitability, will be more willing to spend money on an item that some shareholders criticize at annual meetings as directors' toys.*

LONDON — Although the helicopter is considered the aircraft with one of the best commercial potentials, it has not escaped the impact of the worldwide recession, and sales in this sector are down so far this year from last — as much as 50 percent at some companies.

The sector should take off faster than others when the economic downturn recedes, however. Military budgets may be expected to expand quickly, while commercial businesses, seeing a return to profitability, will be more willing to spend money on an item that some shareholders criticize at annual meetings as "directors' toys."

Such criticisms still are heard, despite the fact that the civil rotary-wing aircraft proved itself conclusively in the rush during the 1970s to develop offshore oil and natural gas reserves. Helicopters now are accepted in offshore prospecting as an everyday form of transport and the trend is for long-haul aircraft, such as the twin-engine Boeing Vertol Chinook, to replace smaller, range-limited types.

There are immense possibilities in two other fields of civil opera-

tion for helicopters, once the recession ends. Pressure remains around the world for a safe, economic and environmentally acceptable form of city-center to city-center air vehicle. New developments in the world of helicopters seem set to meet these criteria.

Typical of a new generation of machines tailored for this sort of work is the Westland 30, an updated version of the Lynx military helicopter, which the British company jointly developed with the French a decade ago. The 30 has its engines mounted on a raft on top of the aircraft, connected to the airframe by suspension units, which damp out a lot of the noise and vibration for the 17 passengers and which also make the aircraft quieter for those on the ground.

Internally, the 30 has been styled like an airliner, so that the businessman stepping out of, for example, a Boeing 737, will not be aware of any deterioration in comfort standards for the commuter part of his journey.

The second area of potential expansion for civil helicopters lies in executive aviation. Having the

business community embrace aviation of any kind as a way of aiding efficiency has been a long struggle, particularly outside the United States; and in the helicopter sector, with its higher operating costs compared to fixed-wing, the struggle has been even more difficult.

But commerce and industry are beginning to accept that enormous savings of time, cost and general wear-and-tear can be achieved by having executives use helicopters rather than surface transport. Specialist companies continue to spring up prepared to manage and operate the company helicopter and to find other users to buy its unused flying hours.

Recent advances in design and manufacture are making the helicopter more attractive to both the civil and the military markets. Airframe and engine lives are being lengthened through the use of more sophisticated gearboxes and rotor heads; aircraft are becoming lighter, stronger and more fuel-efficient as composite materials replace the traditional aerospace metals in many components, including main and tail rotor blades; and enhanced flight-deck avionics are increasing the safety and accuracy of helicopter flying.

In the military world, the drive continues toward greater maneuverability, battlefield survivability (the ability to return to base after being hit by enemy fire) and hauling power — whether the load is troops, supplies or anti-tank missiles.

The North Atlantic Treaty Organization sees the helicopter as one of its main weapons to deter any Soviet ground attack against Western Europe and manufacturers are improving the firepower of missiles to be carried by helicopters into battle. Among the many new and improved helicopters appearing in this sector are the Westland

Lynx 3, the MBB BK117 and the Hughes AH-64, the last with an advanced cockpit design.

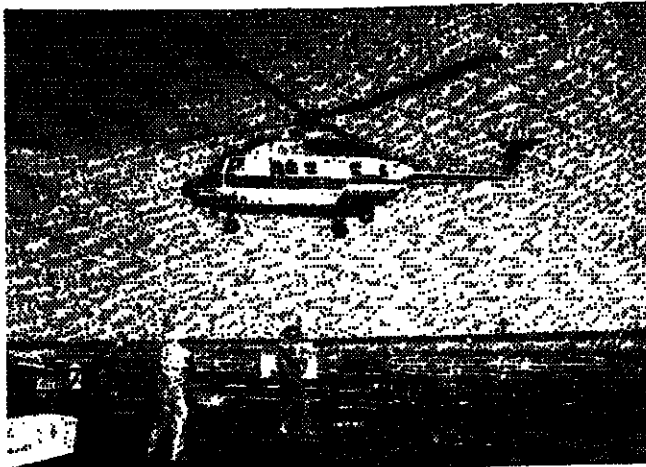
Most manufacturers are building into their new military designs components made of brittle carbon fiber composites that will enable crews to survive a vertical crash at speeds of up to 50 kilometers an hour.

With soaring development costs for all aerospace projects, helicopters included, the aim of the manufacturers is to produce aircraft that can be used for several purposes with only minor and inexpensive changes. Sikorsky sees its H-60 series of helicopters as a "family," adaptable to numerous military roles — including attack, transport, and naval, while the EH-101, to be developed jointly by Britain and Italy, will have three versions — naval, utility and commercial.

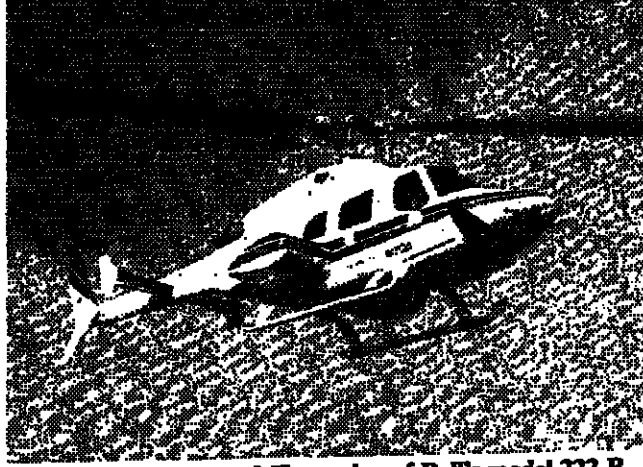
But the big development for the future, already well-advanced in the United States, is tilt-rotor, in which two helicopter rotors at the tips of a conventional wing lift the aircraft off the ground, and then swivel through 90 degrees to act as conventional propellers.

The U.S. armed services have issued a joint requirement, codified JRX, for a vertical-lift aircraft, with a demand that the airframe be made of composite material, rather than metal. The attraction to the manufacturers is a potential order of 1,000 or more machines, but so far a joint proposal by Boeing Vertol and Bell is the only one in the field. Bell has built two XV-15 tilt-rotor test-bed prototypes, and its JRX proposal, with Boeing, will be based on these. All operators of helicopters, whether military or civil, are watching the concept very closely, with its promise of considerably decreased operating costs and lower noise levels.

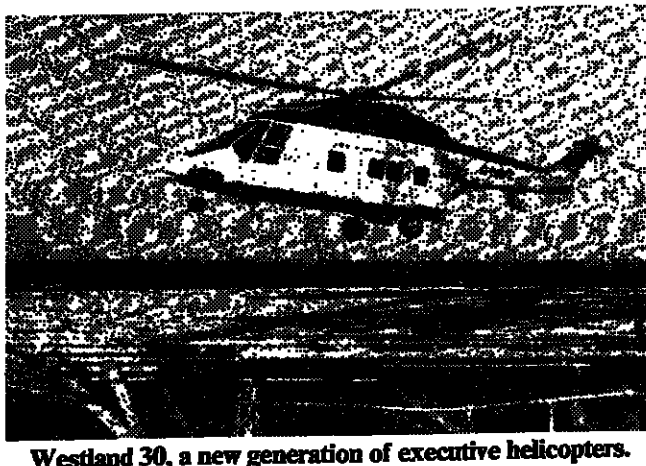
—ARTHUR REED



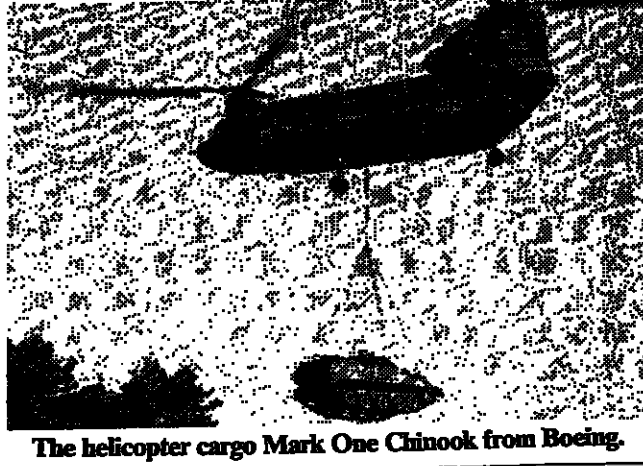
The SA 332 Super Puma from Aerospatiale.



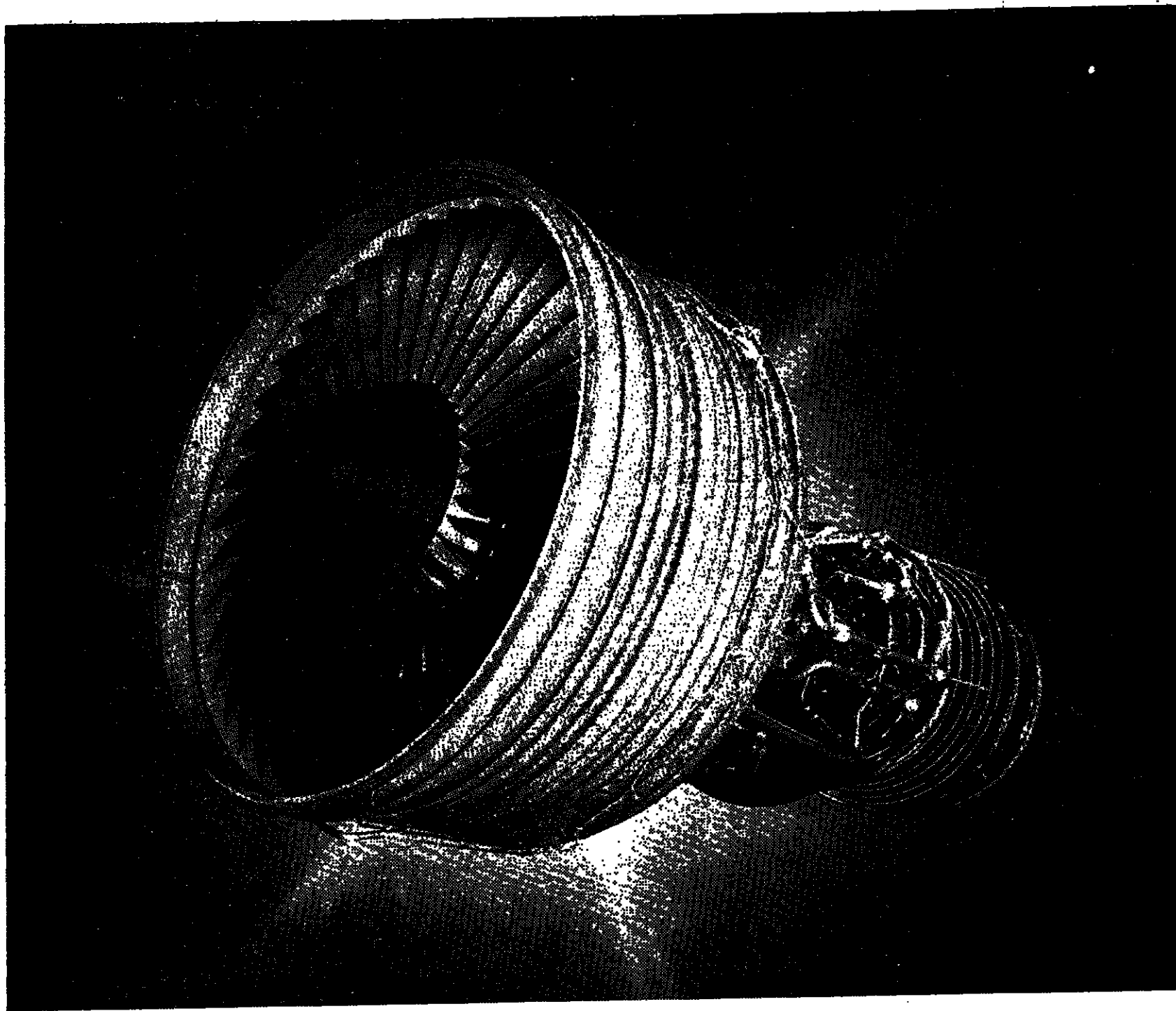
222 Utility Twin, no-frills version of Bell's model 222-B.



Westland 30, a new generation of executive helicopters.



The helicopter cargo Mark One Chinook from Boeing.



## CF6-80C2. "THE" ENERGY EFFICIENT ENGINE OF THE 1990'S. AVAILABLE IN 1985!

Continuing a tradition of leadership in bringing advanced technology to commercial aviation, General Electric has now introduced the CF6-80C2. Initially rated at 56,000 lbs. thrust, the -80C2 has already been tested to 62,000 lbs., assuring adequate growth for a growing market.

Designed to achieve maximum airline profitability, the CF6-80C2 is a product of the breakthrough technology demonstrated by GE and NASA in the Energy Efficient Engine (E<sup>3</sup>) project, a program so successful it is literally advancing the state of the art by years... making 1990's technology available in the mid 1980's.

The CF6-80C2. Already tested to the highest commercial thrust ratings ever and already demonstrating low fuel burn. Proof that instead of just talking about advances in aircraft engine technology, at General Electric we're making them—well in advance of all other aircraft engine manufacturers.

**We bring good things to life.**

**GENERAL ELECTRIC**  
USA

## Major Jet Airliner Builders Restrained by Recession

(Continued from Page 95)

American and Trans World airlines. While those arrangements brought bounties from Boeing, they enabled Douglas to keep its DC-9 production line moving at an acceptable rate.

The other commercial Douglas line, the DC-10 jumbo jet, still is in production, but only to make the KC-10 military tanker version for the U.S. Air Force.

The most newsworthy thing at Boeing is the end of a program, not the beginning of new ones. The Seattle-based firm has announced that it will stop building the ubiquitous 727, after having produced 1,832 copies of the standard-body trijet.

That is the longest production run of any jetliner built, and 727s are estimated to constitute about one-half of the world's jet fleet. The last 727s to be completed will be 15 freighters for Federal Express; the line will close at the end of July 1984.

Meanwhile, "We're just thankful we've got that backlog," said John Wheeler for Boeing. Boeing has a backlog of 410 solid orders for various members of its extended airplane family with delivery dates promised as late as 1988. Douglas, which claims to have outsold Boeing in both dollars and units in 1982, has a firm backlog of only 84 airplanes, so it must continue to try harder.

Nonetheless, Boeing has had to slow production on all its lines, and that means less income. Commercial revenue in 1982 for Boeing declined to \$5.1 billion from \$7 billion a year earlier. Commercial profit was \$16 million, a dramatic drop from \$308 million in 1981.

On the positive side, Boeing now has absorbed most of the costs of developing its two newest entrants into the jet field — the 737 and 767 — and both programs are building constituencies.

Lockheed, the manufacturer of the L-1011 TriStar jumbo, has decided to cut its long-running losses and abandon that program. The last five Tristars are nearing the end of the line at the sleek assembly facility Lockheed built just for the L-1011 in Palmdale, California. Lockheed now is out of the commercial business and is concentrating on military contracts.

Both Boeing and Douglas have solid entries in aircraft seating 100 to 140 people and in the jumbo category. Both are sitting on the sidelines at the moment in the race, if it can be called that, to develop a 150- to 160-seat airplane which several airlines have said they want and that Airbus is pushing to develop.

Sanford N. McDonnell, chairman and chief executive of McDonnell Douglas, predicted recently that it would be 1990 before such a plane is available because engine manufacturers have yet to produce the engine that is needed.

"We feel it would be a mistake to get out an airframe and then have to retrofit the frame to a new engine, as Airbus is doing," Mr. McDonnell said. "We would lose the technology gain" that comes from developing the airframe after knowing the specifics of the engines, he said. Douglas is carrying such a plane on the planning books as the D-3300 — an outgrowth of an abandoned joint venture with Fokker once called the MDF-100.

Boeing's Mr. Wheeler said that engineers there feel that it will be five years before that new engine is available. "We can afford to make" a decision later, he said.

Pratt & Whitney and Japanese partners are engaged in a joint program to develop a new technology engine that, Mr. Wheeler said, "looks applicable."

In the meantime, Douglas' strategy for the next few years is to sell three versions of the DC-9-Super 80, which normally carries 142 people to a range of 2,900 kilometers.

The basic Super 80 is in service in both the United States and Europe. A long-range version, the Super 83, was launched in January. Douglas is seeking enough orders to launch a smaller version of the Super 80, dubbed the Super 90. It would seat 100 to 120 passengers and would feature the efficiencies of all the high-technology electronics that have found their way into newer cockpits and control systems.

Douglas also is seeking orders for a follow-on jumbo to the DC-10. It is called the MD-100 and would feature advanced engines and cockpit design, with new electronics and digital displays. "We're very much engaged" in trying to sell enough of those airplanes to justify starting a line, Mr. Hansen said.

Boeing delivered the first versions of its new 757s and 767s last year and is well on the way with a stretch version of the 737, called the 737-300. The first deliveries are scheduled for December 1984.

Boeing also is seeking enough orders to build a stretch 767. The 767-300 would be available in 1986 and would carry about 40 more passengers than the standard model, which carries about 250 people.

And Boeing is seeking to get the Federal Aviation Administration to change the rules requiring at least three engines for many transoceanic flight routes. That would make the two-engine 767 eligible for the North Atlantic run, for which it easily has the range. However, J. Lynn Helms, FAA administrator, has said that he is "not persuaded that a two-engine airplane provides the safety and reliability I seek" for such flights.

## Airline Fares

(Continued from Page 135)

low-cost airlines like People Express and to a more regulated form of discount fares promoted by the airlines themselves. Some airlines are moving toward an agreement under which a small percentage of unsold seats will be placed on the market at a discount directly by the airlines or designated agencies just a few days before scheduled flights, thereby bypassing the discount shops.

Despite the recession, air travelers still have money to spend on obtaining an element of exclusivity. Concordes, where premium fares 20 percent above first-class are charged, often are nearly full between Europe and the United States and make an operating profit for British Airways. And, a British independent operator recently applied for permission for a transatlantic service with a DC-10 containing only first-class seats.

—ARTHUR REED















Tables include the nationwide prices up to the closing on Wall Street.

[illegible]

Sales figures are unofficial. Yearly highs and lows rated, the previous 52 weeks up to the current week, but not the latest trading day. Where a stock split or stock dividend occurred, the amount or measure has been paid, the year's high-low range and dividend are shown for the new stock only. Unless otherwise noted, rates of dividends are annual/quarterly. **1**—dividend or measure has been paid, the year's high-low range and dividend are shown for the new stock only. **2**—annual rate of dividend plus stock dividend. **3**—leading dividend. **4**—called. **5**—new yearly low. **6**—new dividend declared or paid in preceding 12 months. **7**—residence in Canada; funds subject to 15% non-residence tax. **8**—dividend declared after split-up or stock dividend. **9**—dividend paid this year, omitted, deferred, or no action taken in latest dividend meeting. **10**—dividend declared or paid this year, on occurrence issue with dividends in arrears. **11**—dividend declared or paid this year, past 52 weeks. The high-low range begins with the start of trading. **12**—new day delivery. **13**—P/E—price-earnings ratio. **14**—dividend declared or paid in preceding 12 months, plus stock dividend. **15**—stock split. Dividend begins with date of split. **16**—paid. **17**—dividend paid to stock in preceding 12 months, estimated, cash value on ex-dividend or ex-distribution date. **18**—new yearly high. **19**—new yearly low. **20**—in bankruptcy or receivership or being reorganized under the Bankruptcy Act, or securities assumed by such company. **21**—margin. **22**—when distributed. **23**—when issued. **24**—with warrants. **25**—ex-dividend or ex-rights. **26**—ex-distribution. **27**—without warrants. **28**—dividends and sales in full. **29**—yield. **30**—sales in full.

1. The first step in the process is to identify the problem or issue that needs to be addressed. This involves gathering information and understanding the context of the problem.



## Panel Ruling on Pasta Leads to Loophole in GATT Rules

By Brij Khindaria

International Herald Tribune

GENEVA — The latest food trade dispute between the United States and the European Community has led to the discovery of gaping loopholes in international anti-subsidy rules that place millions of dollars worth of processed farm, forest and fishery exports in likely violation of the General Agreement on Tariffs and Trade.

This results from a new landmark decision of a GATT arbitration panel. The panel ruled that export subsidies on pasta, such as macaroni and spaghetti, were illegal under the 1979 GATT code on subsidies and countervailing duties. In effect, the decision interprets the code's rules as forbidding the subsidizing of exports of processed goods from the farm, forest and fishery sectors.

A small victory for the United States, which had complained about EC subsidies, the decision has not been made public, so that governments will have more time to examine its far-reaching implications.

### Court Tells GM To Pay Interest

New York Times Service

WASHINGTON — The U.S. Supreme Court has upheld a patent infringement award against General Motors, ruling unanimously that lower courts correctly ordered GM to pay \$11 million in "prejudgment interest" to a company whose patent it infringed during the 1950s.

The amount of interest was more than the amount of royalties, \$8.8 million, for which GM had been found liable in the long-running case. The U.S. Court of Appeals ruled in 1972 that General Motors had infringed a patent owned by Dexco Corp.

ations. The code's governing committee will discuss it June 9.

The EC will be under severe pressure to end the subsidies if the committee approves the panel's report and conclusions. But no committee member has made that demand yet because almost every government subsidizes exports of processed agricultural goods.

"The United States has opened a terrific can of worms," said a committee member. "If we approve the report, literally thousands of complaints could be brought against members of processed goods. On the other hand, allowing the EC subsidies creates such a big loophole that the entire code becomes toothless."

The main rule at issue is the code's Article 9, which states simply that "signatories shall not grant certain primary products."

The panel's 16-page report gives the first authoritative interpretation of this rule since the code's creation. It defines primary products excluded from the prohibition, as those "of farm, forest or fishery in their natural form or which have undergone such processing as is customarily required to prepare them for marketing in substantial volume in international trade."

It concludes that "the EC subsidies on exports of pasta were granted in a manner inconsistent with Article 9 of the code."

While admitting that pasta was not a primary product, the EC had argued that its subsidies were legal because they were calculated on the amount of hard durum wheat contained in the pasta. Export subsidies for wheat are allowed under the code, since it is a primary product, as long as competitors do not lose market shares.

The decision marks a turning

point in the code's interpretation because it rules that subsidies to encourage exports of processed goods are illegal even when they are paid only on the primary product component.

"Such subsidies have been used unhindered for the last 15 years, but the panel now says those precedents are unacceptable because they were never transformed into formally legally effective statements."

The panel warns against accepting interpretations of Article 9 not only because its meaning would be changed radically but because its "scope and impact" would be greatly reduced if the subsidies were legalized.

The U.S. complaint, filed in April 1982, took the EC by surprise because the community has regularly notified GATT of subsidized pasta exports since 1970. It saw the charges as a blow below the belt.

Washington apparently had remained silent for so long partly because of its own similar subsidies on cotton textile exports. It raised the issue after the Reagan administration decided last year that U.S. exports were being undermined by subsidized EC exports.

At panel hearings, the EC accused the United States of missing GATT's dispute settlement machinery by complaining even though its own pasta-makers were not hurt by EC exports, which sup-

ply only 3 percent of the U.S. market. The machinery's real intent was to seek "an honest compromise to eliminate or reduce possible injury" to home producers, the EC argued.

Rejecting these claims, the panel cited a separate GATT provision saying that "adverse effects may be presumed to exist" for trading partners through subsidization even where no specific injury is demonstrated. Injury must, however, be proved if countervailing duties are applied.

Although the panel's decisions are in the United States' favor, they carry a sting in the tail because they apply equally to U.S. exports. The United States protect-

ed its right to use such subsidies in 1960 by making a reservation before accepting GATT's Article 16.4 banning export subsidies. But it made no such reservation when joining the 1979 code, which reinterprets Article 16.4 and some other GATT provisions. Noting this, the panel pointedly said that the United States had given up its legal right to use such subsidies.

Consequently, the only way to avoid implementing the panel's interpretations is to prevent their approval by the code committee at its next meeting in June. This is unlikely, unless the United States were to withdraw its complaint because of a sudden amicable deal with the EC.

## U.S. Agency Complains About Foreign Banks

By Robert L. Jackson

Los Angeles Times Service

WASHINGTON — A growing number of businessmen are using foreign banks to try to keep the Securities and Exchange Commission from learning about their dealings in the U.S. securities market, the agency's enforcement director has told a Senate subcommittee.

John M. Fedders said Tuesday that the bank-secrecy laws of small Caribbean and Pacific countries "sometimes foreclose the commission's ability to monitor our markets and insure their integrity." Such secrecy laws "provide a means for wrongdoers to threaten the fairness of our market system," he said.

Mr. Fedders testified before the permanent investigations subcommittee of the Senate Governmental Affairs Committee as the panel released a report charging that a Los Angeles consulting company had

contributed to "the proliferation of offshore private banks" of the type used to hide illicit stock deals.

Charles Morley, the subcommittee's chief investigator, said in the staff report that WFI Corp. of Los Angeles had chartered and sold 150 banks to American clients in such jurisdictions as St. Vincent, Montserrat, Anguilla and the Northern Marianas, all islands in the Pacific.

"These banks could be purchased by WFI for less than \$10,000 and were resold to WFI clients for as much as \$37,000 each," Mr. Morley said. "We have determined that illegal uses abound and legitimate uses are extremely limited."

Jerome Schneider, president of WFI, testified that he had created and sold 120 banks in the past eight years as part of a package of overseas financial services that he provides to wealthy clients. He said his action "are completely legal and above board."

Mr. Schneider acknowledged, under questioning by Senator Warren B. Rudman, Republican of New Hampshire, that at least two purchasers of his banks were subsequently charged with bank fraud. He said he tries to investigate every purchaser to prevent criminals from owning banks.

Mr. Fedders, who did not comment on WFI's practices, said the use of private foreign banks can impede the SEC from learning the identity of persons who seek to gain control of U.S. companies through large stock purchases. Foreign investment in U.S. stocks and bonds "has increased dramatically" from \$23.6 billion to \$53.1 billion over the past four years, he said.

Mr. Fedders said the United States needs more mutual assistance treaties of the type negotiated with Switzerland in October. "As it stands now," he said, "there are two sets of [disclosure] rules: one for those located within the

U.S. and a lesser standard for those trading within the U.S. but from beyond our borders."

The subcommittee's chairman, Senator William V. Roth Jr., Republican of Delaware, said his panel would study amendments to U.S. securities laws aimed at curbing "these international pirates ... who are avoiding the enforcement procedures of the SEC."

### U.S. Reports Rise In Soviet Trade

The Associated Press

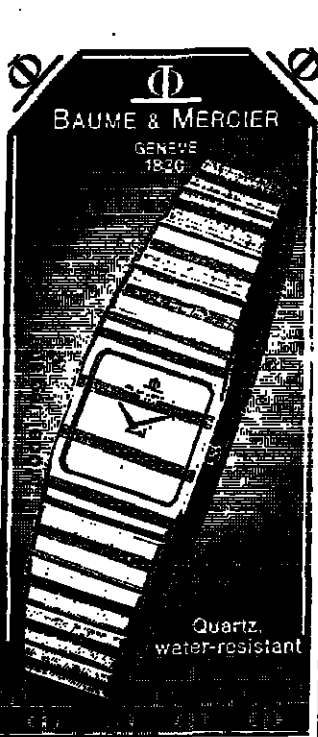
WASHINGTON — U.S. trade with the Soviet Union is slowly increasing while U.S. trade with the rest of the world is declining, according to a new report from the International Trade Commission.

U.S. exports to the Soviet Union — largely grain — were worth \$2.6 billion last year, up 11 percent from 1981, according to the report. Despite that increase, however, the value of total U.S. shipments to the Soviet Union amounted to little more than 1 percent of total U.S. exports. U.S. imports from the Soviet Union fell 36 percent last year, totaling \$229 million.

Total U.S. exports worldwide were \$211.2 billion in 1982, a decline from 1981.

When a country's policies get out of line and threaten to rattle the currency markets, Mr. Ruding said, top IMF officials should give a discreet hint to the government involved. In rare cases, if the government refuses to listen to reason, the IMF might threaten to go public with its criticism, he suggested.

Mr. Ruding also believes strongly in IMF "conditionality," the practice of insisting on economic-policy revisions as a condition for IMF loans. Even some wealthy nations, he said, ought to "knock on the door of the IMF, not so much for the money but for the policy advice and so-called conditionality involved."



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Net Asset Value on May 5, 1983

Pacific Selection Fund N.V.  
U.S. \$3.37 per U.S. \$1 unit.

Pacific Selection Fund N.V.

Gold Options (prices in \$/oz.)			
Price	Aug	Nov	Options to February on June 1st
400	14.50-15.00	—	—
450	11.00-14.00	24.00-26.00	—
490	6.50-9.00	18.50-21.50	—
510	4.00-6.00	15.50-18.50	—

Gold 427 50-48/100  
Valeurs White Weld S.A.  
1, Quai de Mont-Blanc  
1201 Geneva 1, Switzerland  
Tel. 31.02.51 - Telex 28.305

### Fallacies in the New Credit Panic

Room for Another Tenfold Gain in Bond Futures?

The first time there was a major panic in monetary-instrument futures—namely, long-term U.S. Treasury Bonds—the Equity Growth reports of the IOG organization were busy recommending purchases of \$55 and again of \$57. Eight months after the final plunge had been covered—precipitated by the alarmist views of a leading Wall Street credit-cycle economist—we reported that we were taking profits of \$79. If you carry a contract of T-Bond futures from \$57 to \$79, you make roughly ten times your margin equity—since between \$2,000 and \$2,500 in margin money will carry a \$100,000 contract which then gains by \$1,000 for every point of movement in the anticipated direction. A week ago the bond market was in a dizzy again because the same economist had been on network TV protesting as he had in February of 1982 that interest rates could be expected to rise. The instruments descended to \$77.16 with IOG managers resuming accumulation and anticipating a further broad advance to an eventual target above \$100. Numbers of additional buyers in excess ranging from competitors to cotton began cropping up simultaneously—with gold broadening latest foundations to where the \$1,100 level was coming into sight as a new medium-term objective. For more details and specific equity and commodity selections and projections, simply telephone, telex or return the coupon.

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Telex: Brussels 25327.  
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ADDRESS: \_\_\_\_\_  
PHONE: \_\_\_\_\_

## 'Austere' Finance Minister Tries to Fix Dutch Economy

(Continued from Page 17)

cutting, this year's overall government budget deficit is expected to amount to about 11.6 percent of gross national product, up from last year's already worrisome 9.4 percent.

"The next 18 months are going to be tough here in Holland," a foreign banker warned.

The question is how much time will the Dutch allow for the government to produce results before they again turn to the Labor Party, which remains the country's largest.

Mr. Ruding asserted that his government's progress is considerable. Spending cuts approved so far are "enormous," he said. "What we have put in motion ... for next

year altogether is a matter of several points of GNP," he said. "Well, I challenge many democracies—I'm only talking about democracies—to accomplish that in such a short time."

With its ancient dependence on trade, the Netherlands also relies on the kindness of the world economy. "I'm not promising golden mountains," Mr. Ruding said, but the worldwide recovery eventually should benefit the lagging Dutch economy.

One export-boosting method that the government will not resort to, Mr. Ruding said, is devaluing the currency. That question has been sensitive lately.

The Dutch have maintained the guilder as a strong currency, which has helped to keep inflation low.

and has soothed foreign investors. So bankers were unsettled in March when the government agreed to let the guilder slip 2 percent against the Deutsche mark as part of the realignment of the European Monetary System.

The Dutch government argued that the realignment raised the mark's value further than economic conditions warranted. In addition, some officials believed that a slightly cheaper guilder would spur exports.

The Dutch central bank openly opposed the move, preferring the tradition of lining up with the market. Some well-placed bankers said that Mr. Ruding privately had resisted the move but was overruled by Prime Minister Ruud Lubbers.

Mr. Ruding denied that he had opposed the decision. He emphasized, however, that it was a one-time "deviation." Bankers hope so. "I hold him to his word on that," said Roelof J. Nijssen, a former chairman of Amsterdam-Rotterdam Bank in June.

Some bank economists maintain that the "deviation" backfired because export gains were more than offset by a rise in interest rates needed to bring foreign bond investors back into the market. With such political controversy rife, Mr. Ruding likes occasionally to turn his thoughts to international issues.

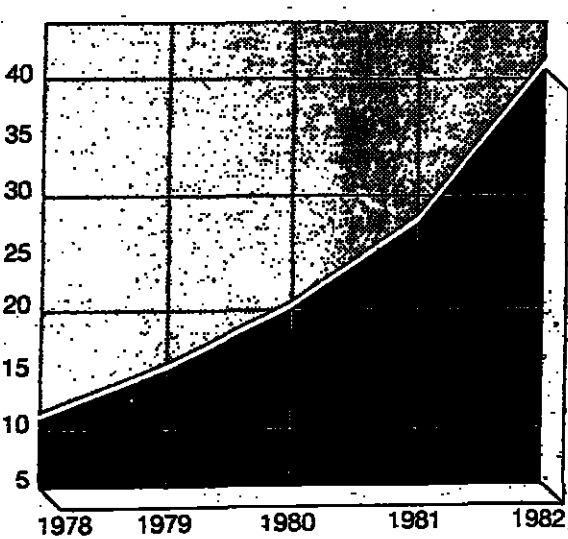
As a former IMF man, Mr. Ruding believes that the IMF should revive its role in "surveillance" of

foreign-exchange markets, a duty set out when the agency was created in 1944.

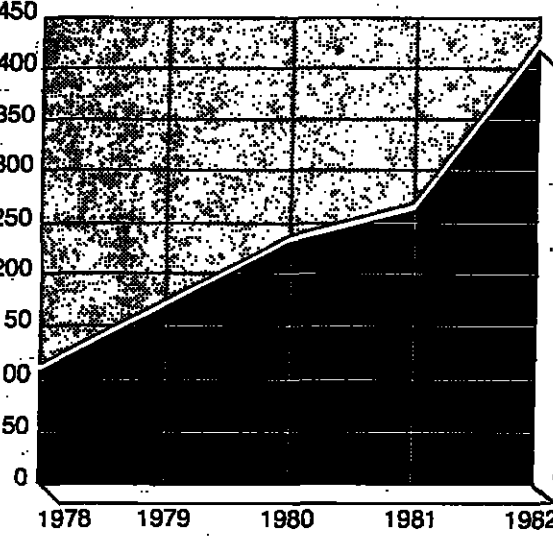
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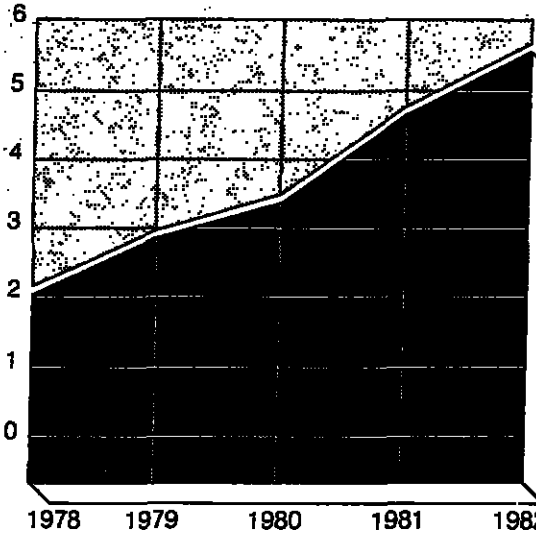
Published Profits (\$ Millions)



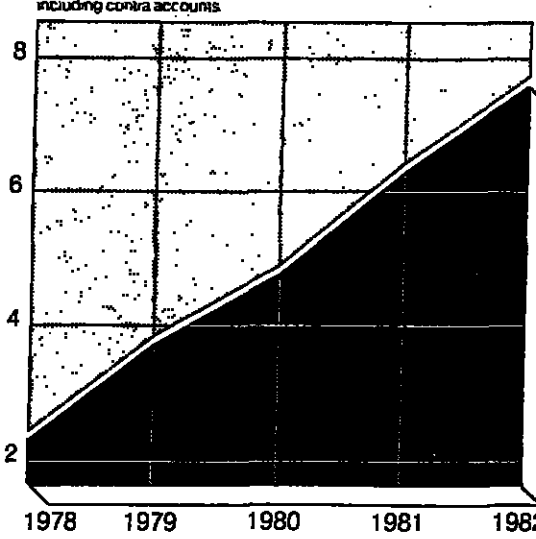
Total Shareholders' Equity (\$ Millions)



Deposits (\$ Billions)



Total Balance Sheet (\$ Billions)



## "...new records of achievement..."

The 1982 Annual Report of The Gulf Bank, headquartered in Kuwait, reflects new records of achievement and positions it for continued growth. Earnings rose 44% to \$40.4 million.

Published shareholders' equity stood at \$451 million on 31 March 1983, after shareholders approved an increase in capital at the Annual General Meeting.

This strong performance reflects expansion of The Gulf's network, both in Kuwait and internationally. During 1982 the Bank opened its Agency in New York and, on 18 April 1983, its Branch in Singapore.

If you would like a copy of the 1982 Annual Report, please write to us.

Balance Sheet Highlights		(US\$ millions*)	
		1982	1981
Cash and balances with banks		125.0	245.0
Trading and investment securities		140.0	126.0
Deposits with banks and other institutions		1,927.0	1,641.0
Overdrafts, loans and bills discounted		3,053.0	2,424.0
Other assets		95.0	93.5
<b>TOTAL ASSETS</b>		<b>6,267.0</b>	<b>5,205.5</b>
Demand, time deposits and other accounts including contingencies		5,763.0	4,874.0
Total shareholders' equity		434.0	270.0
<b>TOTAL LIABILITIES AND SHAREHOLDERS' EQUITY</b>		<b>6,267.0</b>	<b>5,205.5</b>

\*KD1 = US\$ 3.464

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Singapore Branch: The Gulf Bank K.S.C., 21 Collyer Quay # 17-01, Hongkong Bank Building, Singapore 0104. Tel. 2243722, Telex: 22437 GULFBK







## McEnroe Wins After Struggle in Paris

هكذا من الأهل



## ART BUCHWALD

## Mortgaged Education

WASHINGTON — "Mr. Robert Parrish, Magna Cum Laude, will please step forward — I now present you with your Bachelor of Arts degree."

"Thank you, sir."

(Applause from graduating class of Millard Fillmore University.)

"Mr. Parrish, may I have a word with you?"

"I don't believe I know you."

"I'm from the First National Thomas Jefferson Bank. According to our records you borrowed \$25,890 to complete your education at 17 percent interest. We were wondering when you were going to start paying us back."

"I haven't even taken off my robe yet. Can't we talk about this tomorrow?"

"We don't know where we'll find you tomorrow. That's why the bank is now sending our people to graduations. We thought we could work out a schedule of payments. Do you have a job, Mr. Parrish?"

"No, I don't have a job."

"What kind of a position were you planning to look for?"

"I'm going to be a social worker."

"Are you trying to tell me that you believe you can pay back \$25,890 plus 17 percent interest on a social worker's salary?"

"That's what I studied for. I always wanted to do something to help my fellow men and women."

"The bank considers it out of the question. It would take you 20 years to pay back your student loan."

"But the country needs social workers. There are a lot of people out there hurting and in trouble. I know the pay is lousy but there are other things in life besides making a lot of money."

"I am sure there is a need for your profession. But why not let the people who don't owe student loans pursue it?"

"What do you want me to do?"

"Join a large corporation. I'm certain with your scholastic record you could be earning \$75,000 a year in no time."

"I don't want to work for a large corporation. If I did I would have gone to business school."

"If you knew you were going to be a social worker why did you apply for a student loan?"

"Because I couldn't afford to go to college without one. No one asked me when I applied for the money what I intended to be when I graduated."

"We assumed that you would go into something that paid well, so you could honor your loan. It was your duty to level with us, so we would know from the start you were a bad risk."

"Well, it's too late now. I spent the money on my education and I'm going to devote my life to social work. I'll pay you back when I can."

"I think you ought to know, Mr. Parrish, that student loans are guaranteed by the U.S. government and they are taking a very harsh view of people who are not making good on them."

"What you're saying is the government is only interested in students who are going to make enough money to pay back their loans? What happens to the kids who want to be teachers and nurses, or work in the inner cities? America needs them, too."

"Possibly, but that isn't our concern. If I go back to the bank and tell them that you're going into social work, we'll have to report it to Washington, and the next thing you know, you will be dealing with the FBI. For your sake, reconsider what you want to do for a living. I understand, if you play your cards right, you can rise very fast in the telephone company."

"No dice. The bank is stuck with a social worker whether you people like it or not."

"If that's your last word, Mr. Parrish, you'll have to excuse me. I see a graduate over there who owes us \$24,000 and wants to become a minister. That's the last straw."

## Shintos, Buddhists

## End Lengthy Dispute

United Press International

TOKYO — Shintos and Buddhists ended a 100-year dispute over the rights to an ancient religious compound that attracts more than 7 million tourists a year, court officials said Wednesday.

They settled out of court, agreeing to double admission fees and split the revenue at the seven classic structures in Nikko. The dispute began in 1871 with the separation of the traditional Shinto religion from Buddhism.

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## Benny Carter

## Jazzman Does So Many Things So Well He Has Been Dismissed as Some Sort of Myth

By Michael Zwerin

International Herald Tribune

PARIS — "I stand in awe of his vast proficiency," Duke Ellington once said of Benny Carter. Milton Babbitt, the composer and an expert on popular music of the '30s, put Carter with Ellington as one of the two most original musical minds of that period. Miles Davis, who played with Carter's big band when it was a teen-ager in 1944, told a critic: "Everybody ought to listen to Benny. He's a whole musical education."

It is difficult to keep an article about Benny Carter, the unsung hero of jazz, from reading like a paid testimonial. There has been too much praise, too many awards. Whitney Balliett wrote in The New Yorker: "Carter belongs to that select circle of pure jazz musicians who tend to represent the best of their times."

Notice "pure-jazz," hyphenated as though it were a style on its own. Perhaps there is the secret to both the universal respect he receives from people in the business, and the fact that he remains relatively unknown to the general public. He does so many things so well with such purity that he has been dismissed as some sort of myth, or fabrication. Listening to one of Benny Carter's arrangements, to his alto saxophone or trumpet playing, one is likely to react: "That's wonderful. Who is it?" rather than "It's Benny Carter."

One of the first American musicians to tour Japan, in 1953, he remained popular there as his fame declined in the West. He will tour Japan again from May 28 to June 12 with the Benny Carter Allstars. After a visit with a similar formation in 1981, one of his young employees said: "He's so unpretentious and approachable I have to keep reminding myself of who he is and what he's accomplished."

Dizzy Gillespie called playing with Carter "my best musical experience next to playing with Charlie Parker." Carter placed second after Parker in the 1953 Down Beat magazine critics' poll, and after Parker died Carter was first in 1955 and '56. In their recent biography "Benny Carter: A Life in American Music" (Scribner Press), Monroe Ber-



Benny Carter will begin tour in Japan Saturday.

ger, Edward Berger and James Patrick describe his saxophone style: "His unique timbre, delicate vibrato and attention to varied articulation and dynamics directly challenged the violently colored sonority that had long been considered essential to 'Negro Jazz.'"

He has written and arranged music for (a short list) Fletcher Henderson, Count Basie, Benny Goodman, Glenn Miller, Artie Shaw and The Lucky Strike Hit Parade. The musicologist, composer and author Gunther Schuller said that Carter's writing in the '20s "forbade the rearing style of the next decade: He was the arranger everybody followed."

One of those who helped forge the basic form of the music he plays, Carter — now a dignified, charming and virile 75 — led his first big band in 1928. He led one almost continually until their decline in the '40s. Known as "musicians' bands," they served as proving grounds for such improvisers as Ben Webster, Teddy

Wilson, J.J. Johnson and Max Roach. Carter integrated his band in the early '40s, when this was rare, hiring Buddy Rich on drums, the alto saxophone player and pianist Joe Albany. Once when a client asked if Albany was white or black, Carter replied: "I don't know. I never asked him."

He grew up in the San Juan Hill section of Manhattan, where the Ellington trumpeter Bubba Miley, who lived in the neighborhood, would "let me carry his horn to the subway station." The Carter family moved to Harlem when he was 6. There was a renaissance of black music in the Harlem of the '20s, which led Willie the Lion Smith to say: "I would rather be a fly on a lamp post in Harlem than a millionaire anywhere else."

At the age of 18, in 1925, Carter moved to "Striver's Row," a block of elegant brownstones on 139th Street. He was in demand as a sideman and soloist and soon led his own bands in the Cotton Club, Connie's Inn,

Small's Paradise, the Savoy Ballroom, the Apollo Theater and other flourishing clubs and ballrooms. He spent a few years in Europe before World War II, including a period as arranger for BBC orchestras.

He played Los Angeles in the early '40s, liked it immediately, and was soon living in good houses in fine neighborhoods, driving big cars and traveling first class. "I became," he says now: "a journeyman arranger." He says it with a big proud smile, adding: "I never think of the term as pejorative. What does 'journeyman' mean? A worker who has learned a trade. They wanted certain styles. I enjoyed doing them all. It gave me an opportunity to explore other dimensions. Each one was a challenge."

He speaks in a slow, deliberate, pedantic cadence, considering each word with care, regarding even conversation as a challenge. "I would rather be a directorship or aegis or whatever you want to call it, than a journeyman," he says. He is a man of people like Hugo Friedhofer and Alfred Newman. A busy, prolific composer does not always have time to orchestrate. He lays out the broad contours of the music and leaves it to orchestrators to mix the specific colors. "He earned screen credits with the music for 'Stormy Weather,' 'Portrait of Jennie,' 'An American in Paris' and many others."

The trumpeter Rex Stewart said: "His gentility almost seems to be out of a forgotten age." Although born poor and without formal education (he has an honorary degree from Princeton and teaches there), Carter conducts himself with such discretion that it may be one reason he has not reached the prominence his talent deserves. In a pushy business, discretion is not always an asset.

His music does not overwhelm. Rather, it seems to be saying: "Here I am, I am what I am, I hope you like it, but I will not inflict."

Throughout his successful Hollywood period he continued to work with his own band occasionally and was part of the Jazz at the Philharmonic troupe in the '50s. He began to write music for TV series, "M Squad" for one, but scoring work decreased as rock influence increased on film sound tracks: "They sort of let me go."

## A Hughes Settlement

Terry Moore announced in Beverly Hills, California, that she will get enough money from the heirs of the late billionaire Howard Hughes to allow her to live the rest of her life "comfortably on the interest."

Moore, wearing a shocking pink jumpsuit and posing in front of a huge photograph of Hughes, refused to disclose the exact amount of the settlement. Her lawyer, Arthur Leeds, said it was between "five and eight figures." Moore and Leeds said the Hughes heirs agreed that Moore, 54, who claims she married Hughes in 1949 on a ship sailing from San Diego to Mexico and that they never divorced, is the legal widow of the reclusive billionaire. However, Wayne Fisher, attorney for two Hughes heirs, said the estate had not acknowledged her as Howard Hughes' widow. "We thought it was worth settling it on a nuisance basis," Moore, a Hollywood starlet in the late 1940s, staged the press conference at the Beverly Hills Hotel because that is where she and Hughes "had such good times" together. Her agent, Monroe Friedman, introduced her as "Mrs. Howard Hughes" — "I waited a lifetime, more than 30 years, to hear those three words," Moore said, explaining that she kept the marriage secret because she did not want to damage her screen image as an innocent, naive girl. Tom Schabert, a Houston attorney whose firm represents 19 people determined in court to be blood relatives of Hughes, confirmed the agreement, saying it removes the last claim that was pending against the estate in Nevada. Hughes, who was also married to the actress Jean Peters from 1957 to 1971, died in 1976.

will not do another one," said the computer expert. "The rock 'n' roll business is not like the computer business, which is really easy, straightforward and upfront," he says. "In this business, everybody is always trying to get something out of somebody else and trick them out of it." He would not be specific, but promised to tell all after the festival. Despite attracting 400,000 fans, last year's three-day rock extravaganza reportedly lost more than \$5 million.

An American executive saw a 30-year-old dream of climbing Mount Everest dashed by his millionaire colleague kept up his quest to become the oldest climber to conquer the world's highest peak. Frank Wells, 51, a former president of Warner Brothers, waited three nights for waist-deep snow to blow away before trying to conquer the summit. But Wells gave up the attempt at the third camp at 24,400 feet out of concern for his health after being exposed to the high altitude for so long, a spokesman of the climb team said. "He is located down the mountain," said Peter Jamieson, 28, after radio contact with the climbers. Asked if this meant Wells would not make any further attempts on the world's highest peak, Jamieson replied, "It means he is not going up again." Meanwhile Dick Bass, 53, a rancher, oil man and owner of a ski resort near Salt Lake City, Utah, moved up from the third camp to the fourth to try again to conquer Mount Everest.

The British actress Margaret Rawlings, who will be 77 June 5, is making her first appearance on an American stage in 45 years in the Spoleto USA Festival. "People never give me any credit for being as old as I am," she said. "That's great because I don't want to be helped upstairs." At the festival, in Charleston, South Carolina, she stars in "Empress Eugenie," the life and times of the wife of Napoleon III. Rawlings hopes "Empress Eugenie" will get her back to Broadway. "I would very much like to do it in New York for a limited run," she said. "I'm going to be good, I won't be as good as a port again." It would be her first run on Broadway since 1938, when she starred in "The Flashing Stream." It closed within a week.

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